

STEREO AUDIO SYSTEM

UD-300

SERVICE MANUAL

(A-A3/X-A3/LS-A3)

KENWOOD

©1992-2 PRINTED IN JAPAN
B51-4496-00(S)4074



Precautions when performing repairs.

- (1) If you want to power on X-A3 without A-A3 need power supply jig (RM-90PS). Power-on procedure is written on page 25 (USE TEST MODE).
- (2) Do not look directly at the laser beam while repairing the CD Player.

UD-300

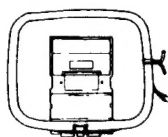
CONTENTS

AMPLIFIER (A-A3).....	3
DECK, CD, TUNER(X-A3).....	4
CONTROL AND INDICATOR.....	5
REMOTE CONTROL UNIT.....	7
SYSTEM CONNECTIONS.....	8
DISASSEMBLY FOR REPAIR.....	9
BLOCK DIAGRAM.....	14
AMP SECTION.....	14
TUNER SECTION.....	15
CD SECTION.....	16
DECK SECTION.....	17
CIRCUIT DESCRIPTION.....	18
MECHANISM DESCRIPTION.....	48
CD PLAYER.....	48
CASSETTE DECK.....	50
ADJUSTMENT.....	58

AMPLIFIER (A-A3)	
WIRING DIAGRAM.....	69
PC BOARD.....	70
SCHEMATIC DIAGRAM.....	73
CASSETTE DECK (X-A3)	
WIRING DIAGRAM.....	81
PC BOARD.....	82
SCHEMATIC DIAGRAM.....	87
EXPLODED VIEW.....	103
CD MECHANISM.....	103
CASSETTE MECHANISM.....	104
A-A3.....	105
X-A3.....	106
PARTS LIST.....	107
SPEAKER.....	115
SPECIFICATIONS.....	117

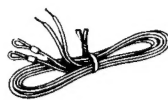
ACCESSORIES

- AM loop antenna ... 1



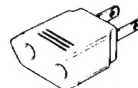
(T90-0174-05)

- FM indoor antenna ... 1



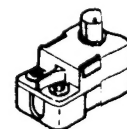
(T90-0175-05)

- AC plug adaptor ... 1
(Except for some areas)



(E03-0115-05)M

- Antenna adaptor ... 1
(75 Ω /300 Ω)
(Except for some areas)



(T90-0185-05) T,E

- Remote control unit ... 1

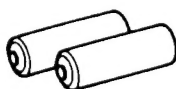


(X94-1010-11)

BATTERY COVER

(A09-0126-03)

- Batteries (R06/AA) ... 2



INSTRUCTION MANUAL

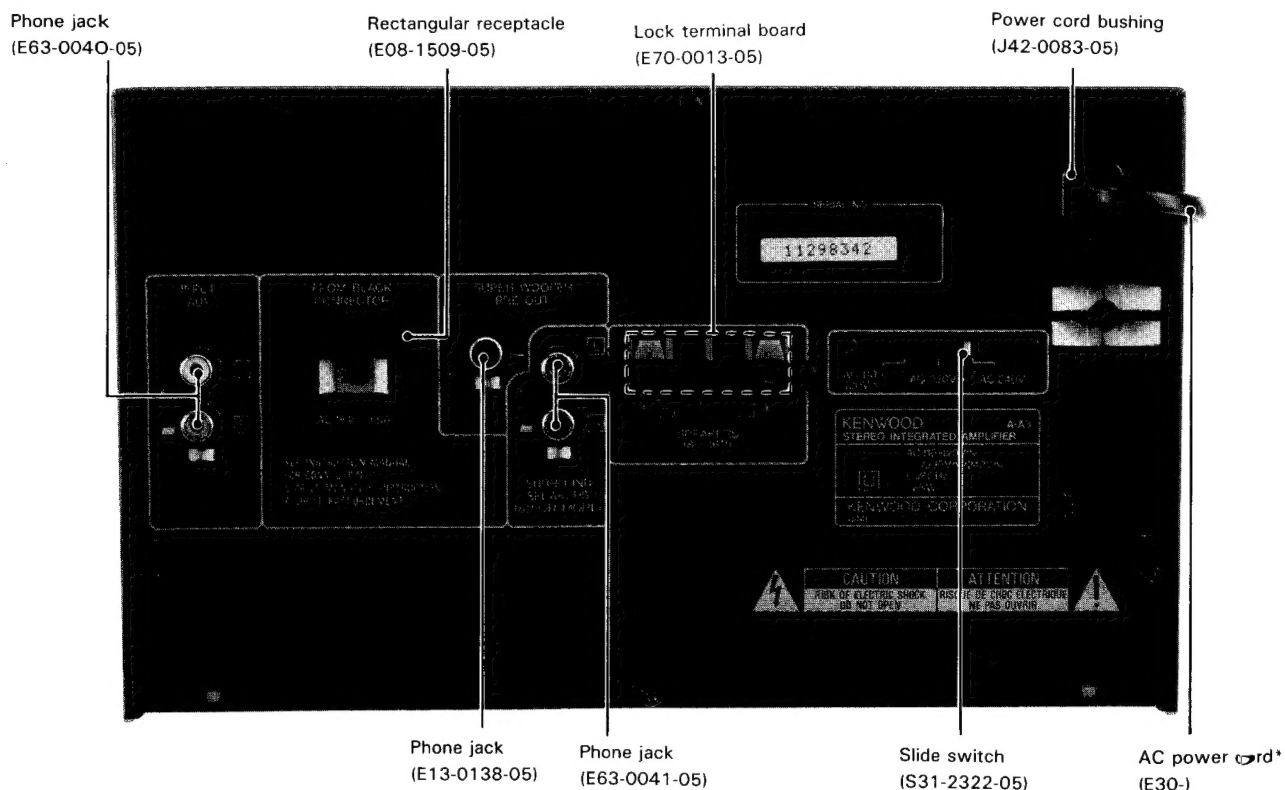
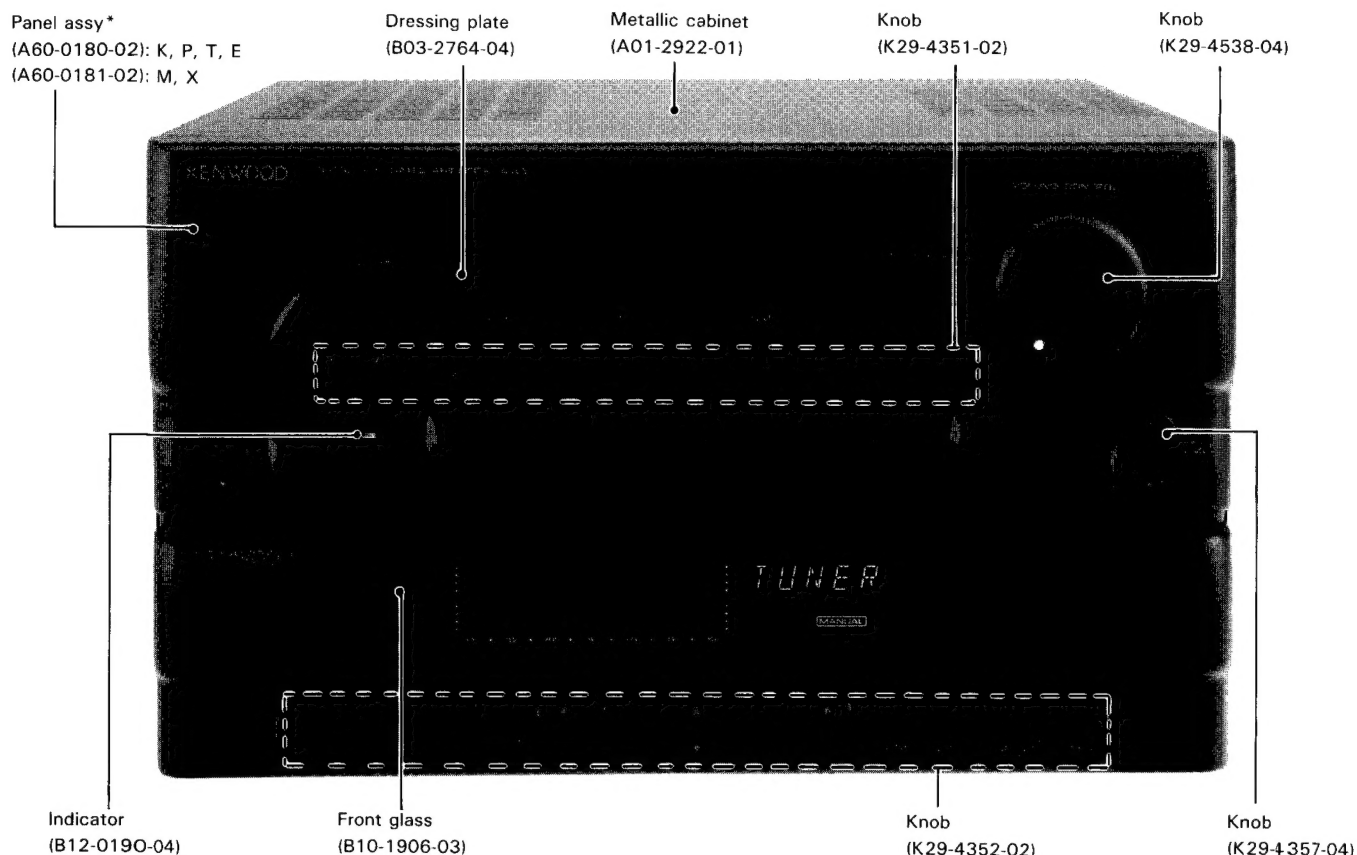
B60-0751-00 (ENGLISH)	B60-0755-00 (ITA) E
B60-0752-00 (FRE) P,E	B60-0756-00 (CHI) M
B60-0753-00 (GER) E	B60-0757-00 (SPA) M,E
B60-0754-00 (JAP) E	B60-0758-00 (ARA) M

Antenna holder



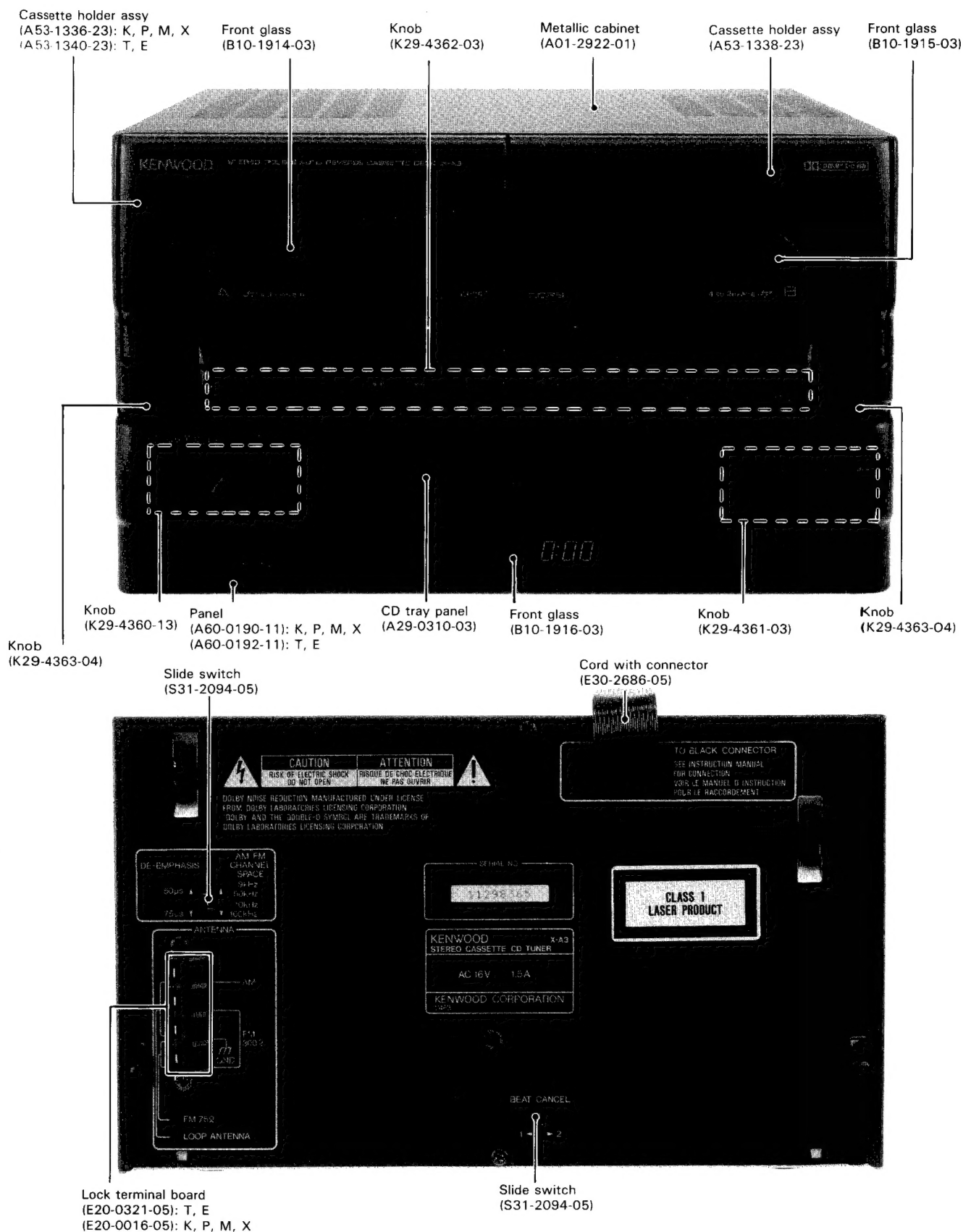
(J19-2815-04)

AMPLIFIER (A-A3)



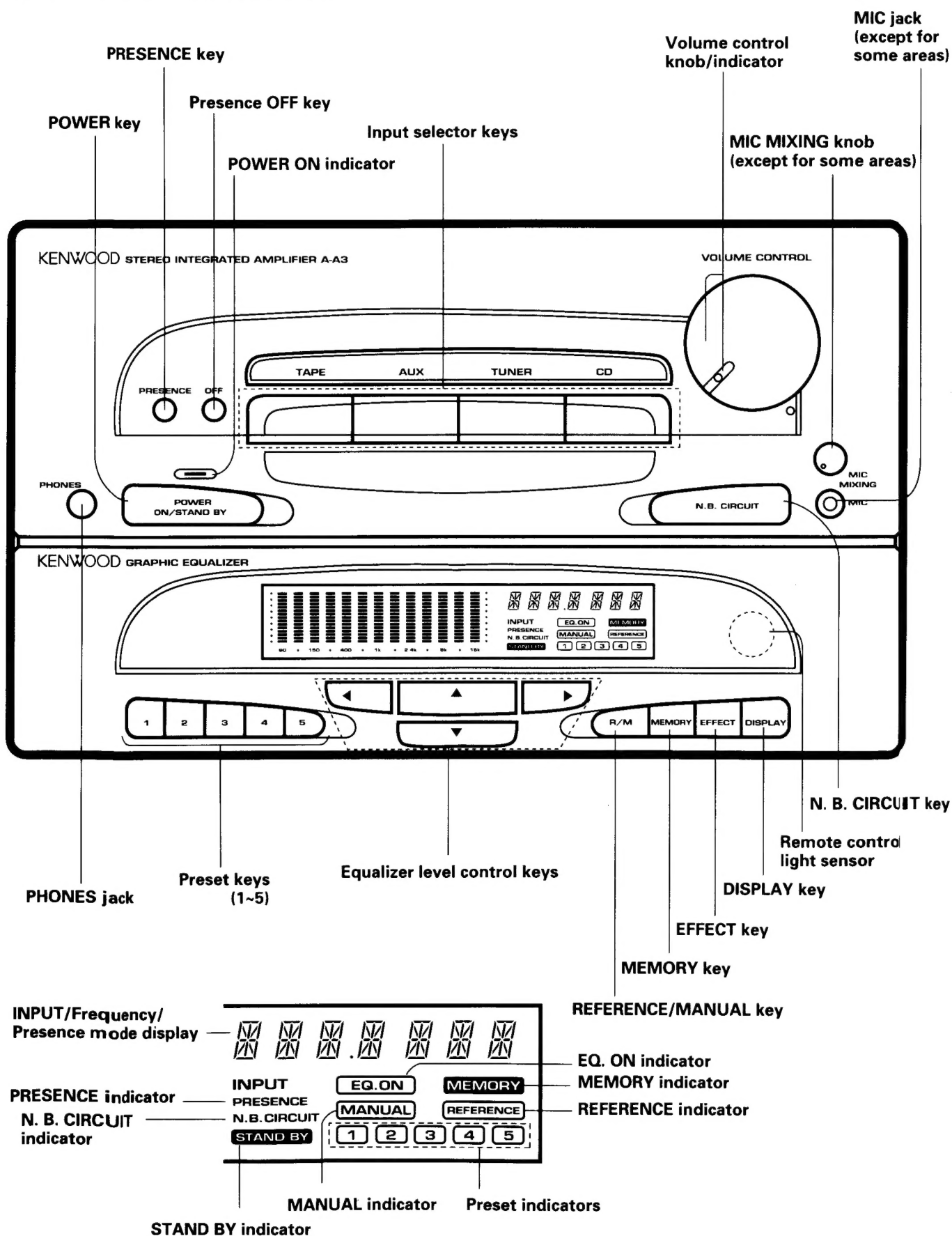
UD-300

CD TUNER (X-A3)



CONTROLS & INDICATORS

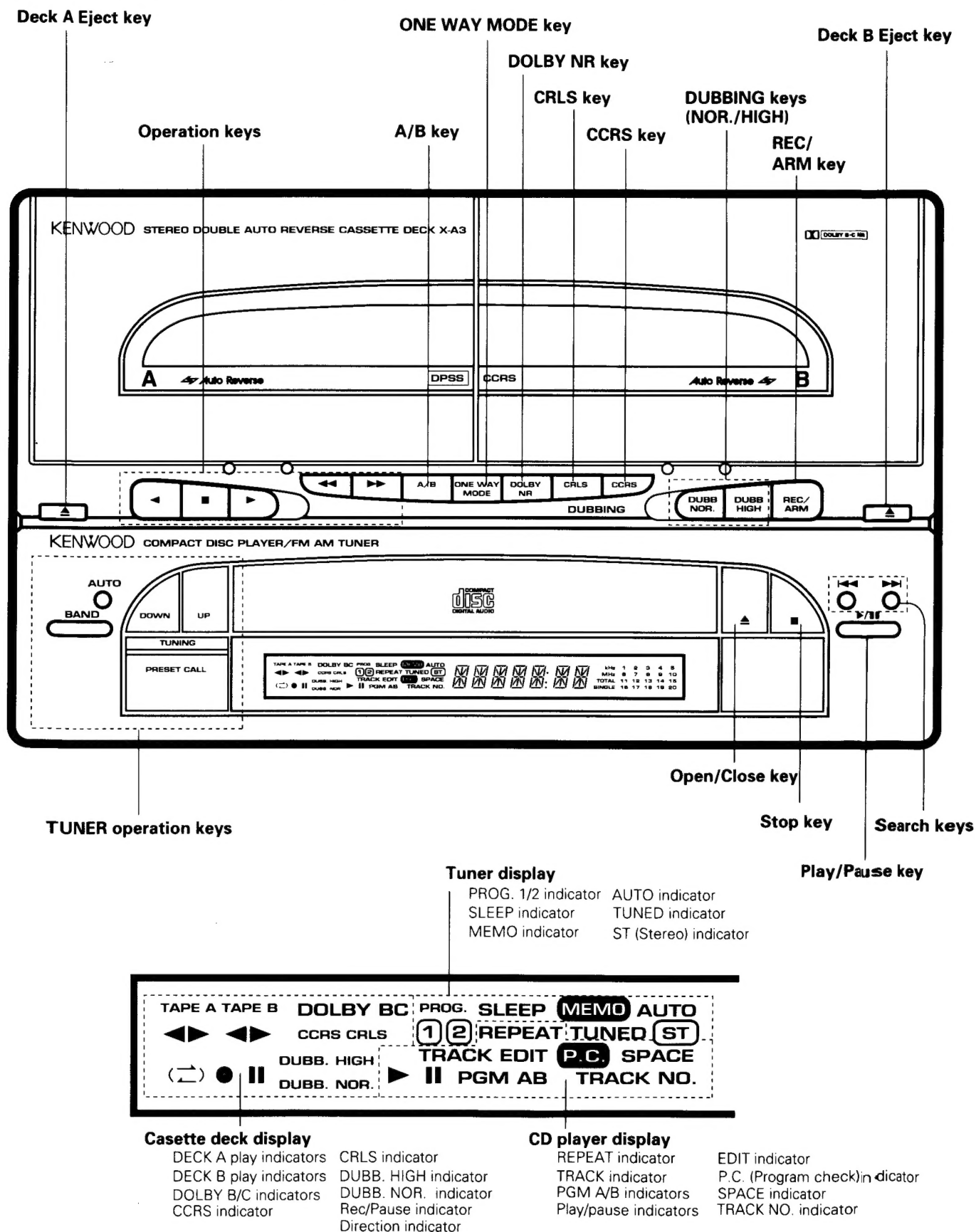
■ Amplifier/Graphic equalizer unit



UD-300

CONTROLS & INDICATORS

■ Cassette deck/CD player/tuner unit



REMOTE CONTROLLER

POWER key

Tuner operation keys

ADJUST: Adjusts the time of day.
 TUNING: Tunes a station.
 AUTO: Switches the tuning modes.
 P.CALL: Recalls the preset stations.
 PROG.: Modifies or checks the programmed contents.
 EXE.: Executes the program.
 BAND: Switches the broadcast bands.
 SLEEP: Sets the sleep timer.

CD operation keys

P.MODE: Switches the play modes.
 CLEAR: Clears a selected track from the program.
 CHECK: Checks the tracks selected in the program.
 EDIT: Switches the editing modes.
 SPACE: During recording, creates a non-recorded space of 4 seconds between tracks.
 REPEAT: Plays track(s) repeatedly.
 TIME: Switches the time display.

Numeric keys

How to enter numbers:

To enter 20 ... **+10** **+10** **0**To enter 23 ... **+10** **+10** **3****Deck A operation keys****Deck B operation keys**

PRESENCE: Switches the presence modes.
 OFF: Turns the presence mode OFF.

N.B.CIRCUIT: Reproduces more natural bass sound.

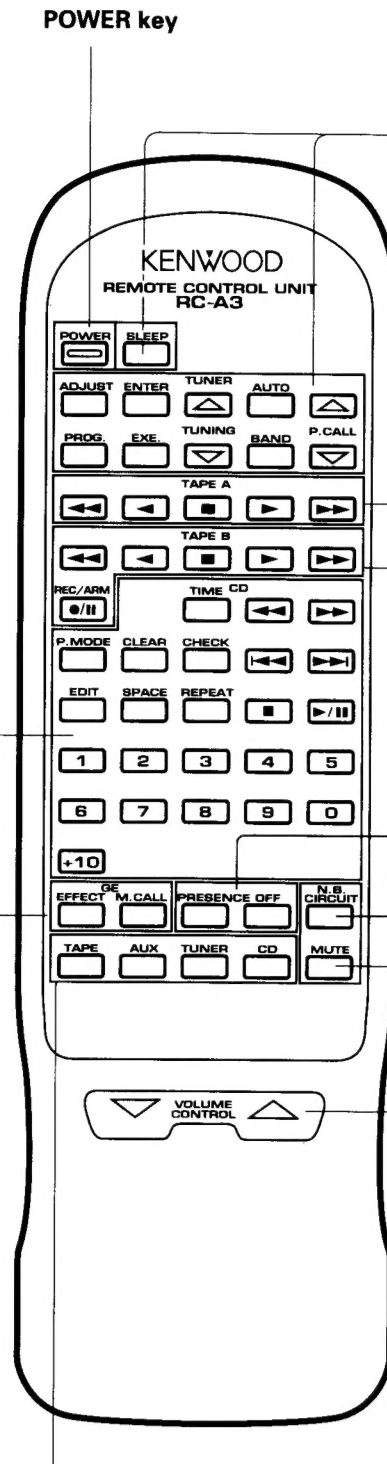
MUTE key

Reduces the volume temporarily. The indicator on the VOLUME CONTROL knob blinks while muting is active.

MASTER VOLUME control keys

Adjusts the volume. While these keys are operated, the VOLUME CONTROL knob on the main unit rotates and the indicator on it blinks at high speed.

Input select keys



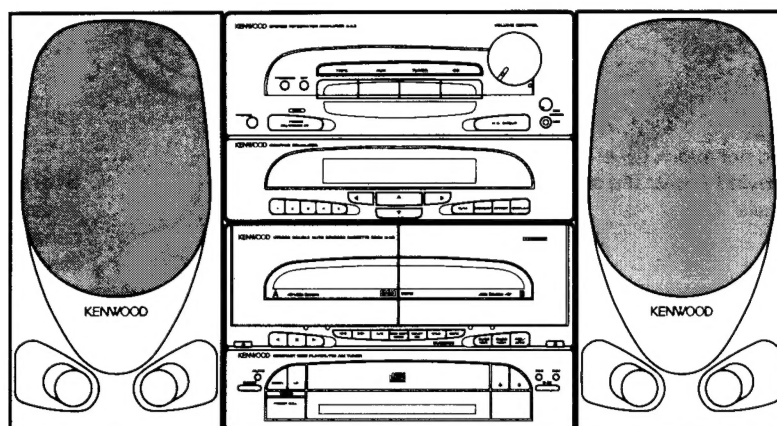
UD-300

SYSTEM CONNECTIONS

Do not plug in the power cord until all connections are completed.

- When stacking components, follow the indicated order in the connections diagram.
- When connecting the related system components, refer also to the instruction manuals of the related components.

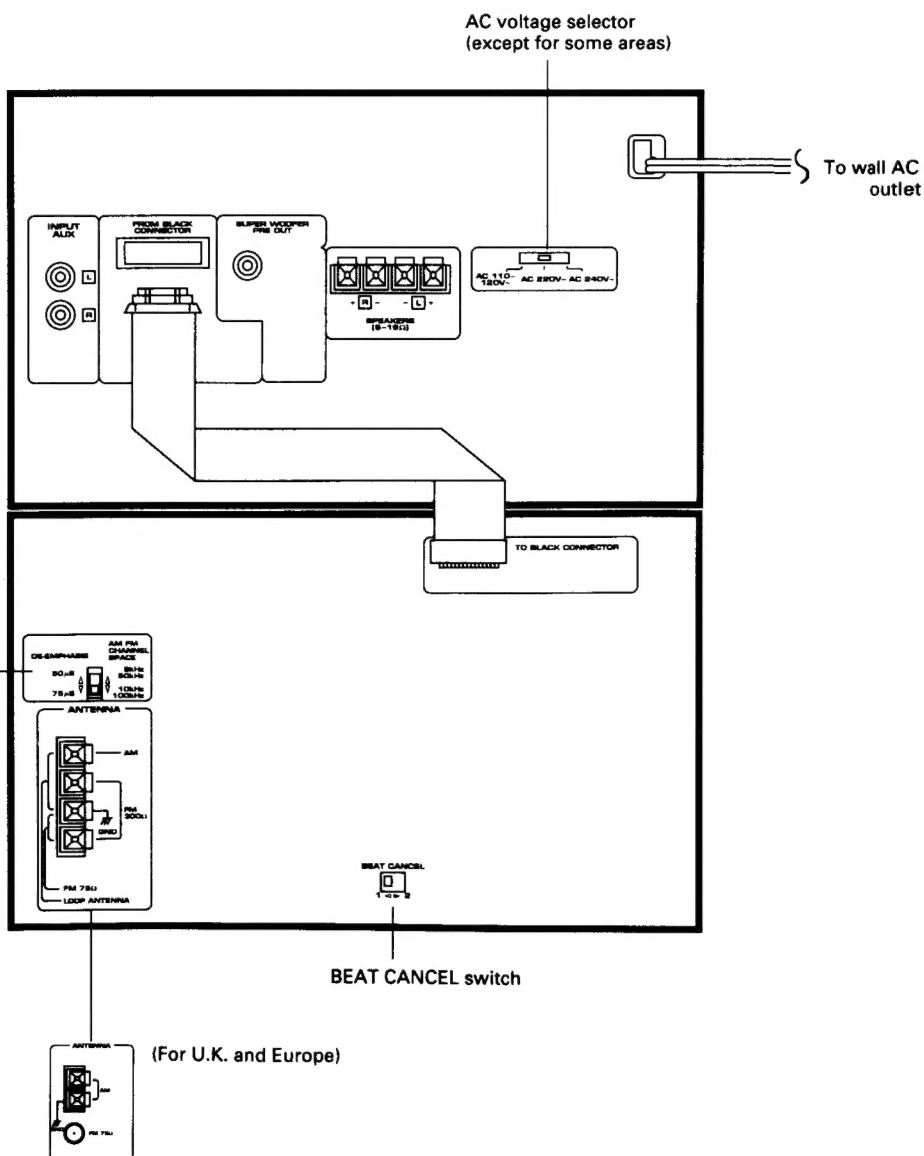
Vertical installation



Amplifier/ Graphic equalizer A-A3

Cassette deck/ CD player/tuner X-A3

FM DE-EMPHASIS/
CHANNEL SPACE switch
(except for some areas)
refer to page 7.



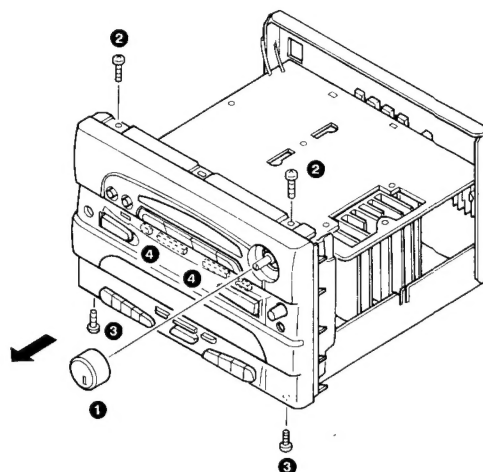
DISASSEMBLY FOR REPAIR

(Remove the metallic cabinet from the body beforehand)

(A-A3)

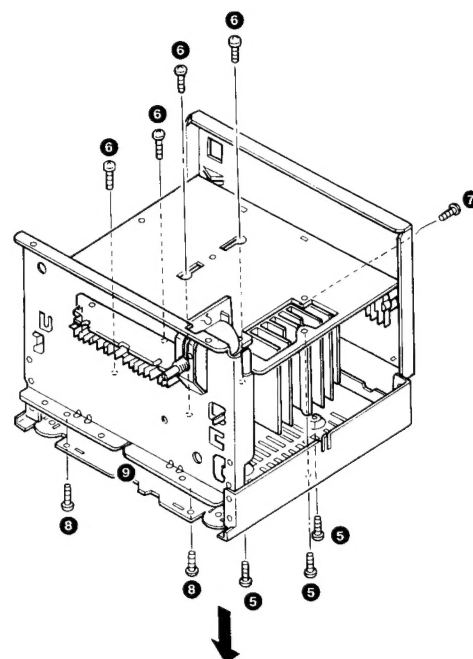
① Removing the front panel ass'y.

- 1) Remove volume knob ①.
- 2) Remove 2 screws ②.
- 3) Remove 2 screws ③.
- 4) Pull out front panel ass'y frontwards with care of connectors ④.



② Removing the chassis of bottom board.

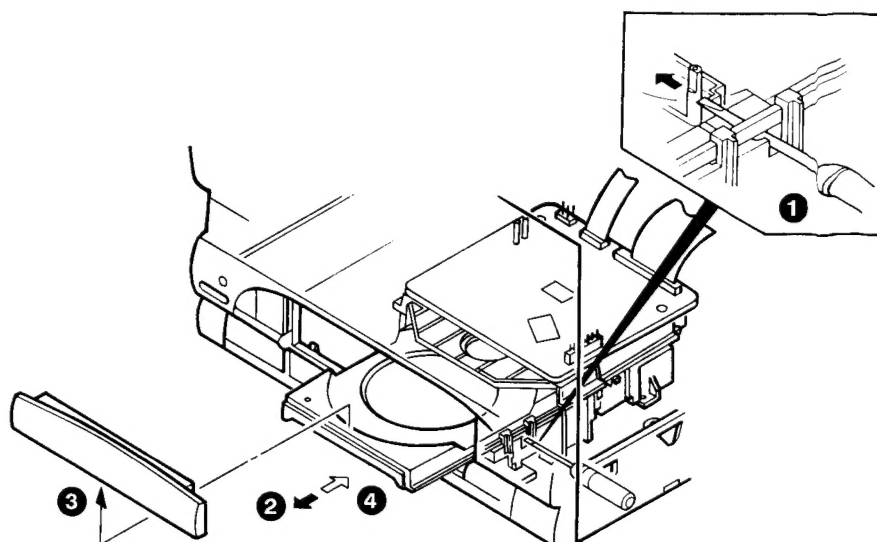
- 5) Remove 3 screws ⑤.
- 6) Remove 4 screws ⑥ of the transformer.
- 7) Remove 1 screw ⑦.
- 8) Remove 2 screws ⑧.
- 9) Remove the chassis of bottom board ⑨.



(X-A3)

① Removing the front panel ass'y.

- 1) Insert the driver to push the slider, into the rightside hole of mechanism ass'y (①).
- 2) Pull out the tray (②).
- 3) Remove the tray panel (③).
- 4) Push the tray backwards (④).



UD-300

DISASSEMBLY FOR REPAIR

5) Remove 2 screws ⑤.

6) Remove 2 screws ⑥.

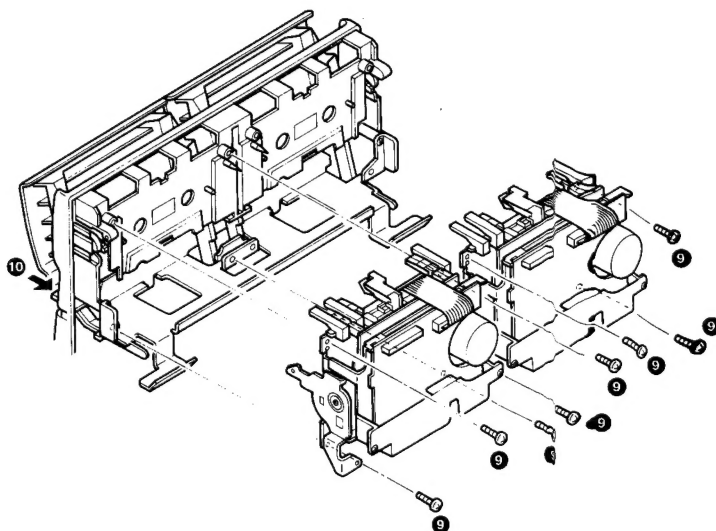
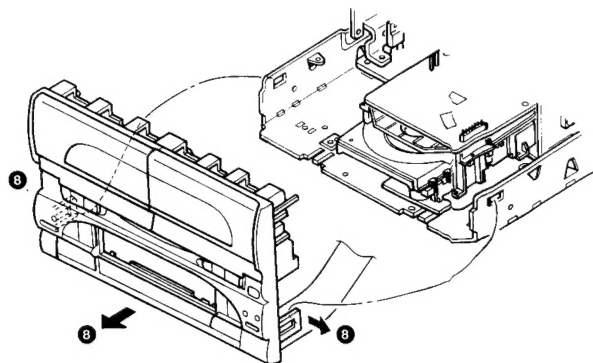
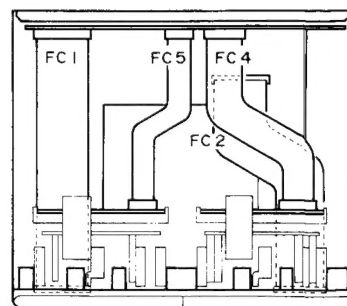
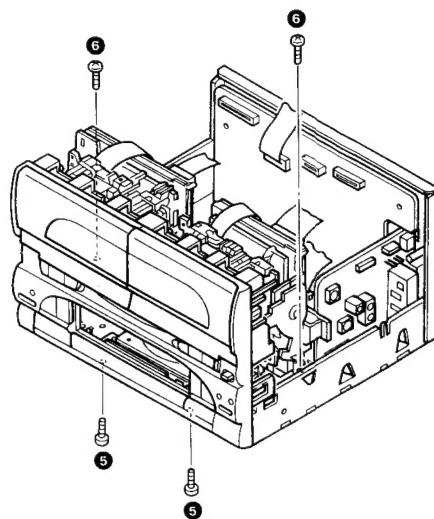
7) Remove flat cables (FC1~4) from connector.

8) Remove both side of catchers and panel ⑧.

② Removing the cassette mechanism.

9) Remove 8 screws ⑨.

10) Push eject knob and remove mechanism ass'y ⑩.

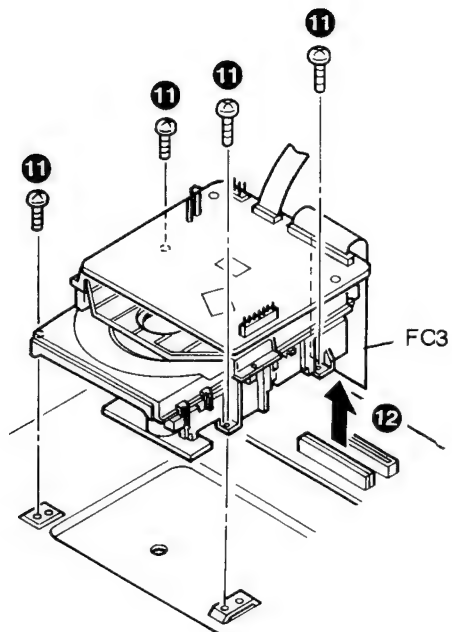


DISASSEMBLY FOR REPAIR

③ Removing the CD mechanism.

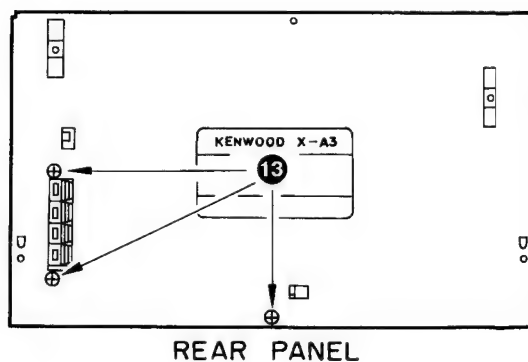
11) Remove 4 screws ⑪.

12) Remove FC3. ⑫.

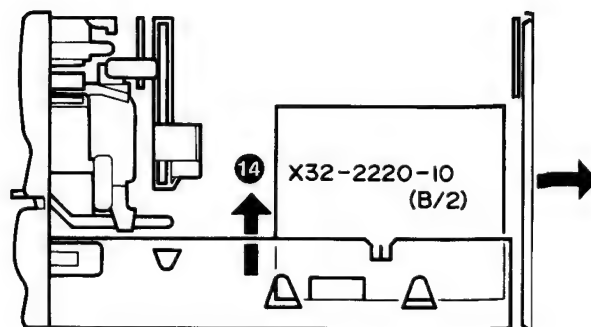


④ Removing the tuner PCB.

13) Remove 2 screws ⑬.



14) Remove the tuner PCB from connector. ⑭.

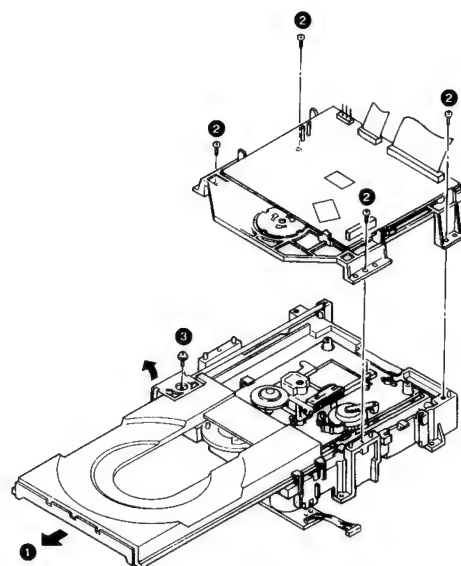


UD-300

DISASSEMBLY FOR REPAIR

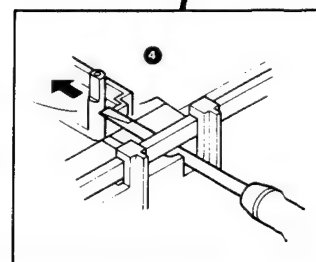
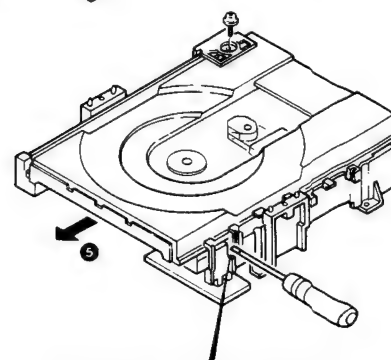
1) How to Remove Tray

1. Turn the power switch to OFF when the tray is open condition (❶).
2. Remove the screws (❷) and clamber ass'y.
3. Remove the screw (❸) and guide. And then remove the tray.



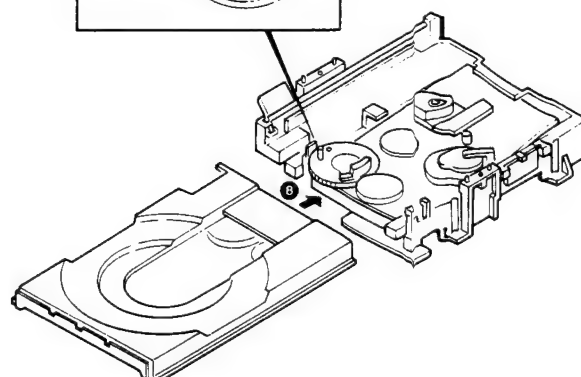
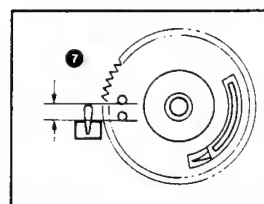
2) How to Remove the Tray When Power Switch is OFF or Tray Not Come Out

1. Insert the driver to the right-side hole of mechanism ass'y (❹).
2. Tray can be pulled out (❺).



3) How to Mount the Tray

1. Meet the mark on the gear with that of mechanism chassis (❷).
2. Insert the tray to both-side guide on chassis (❸).
3. Mount the guide on the chassis with screw (❹).

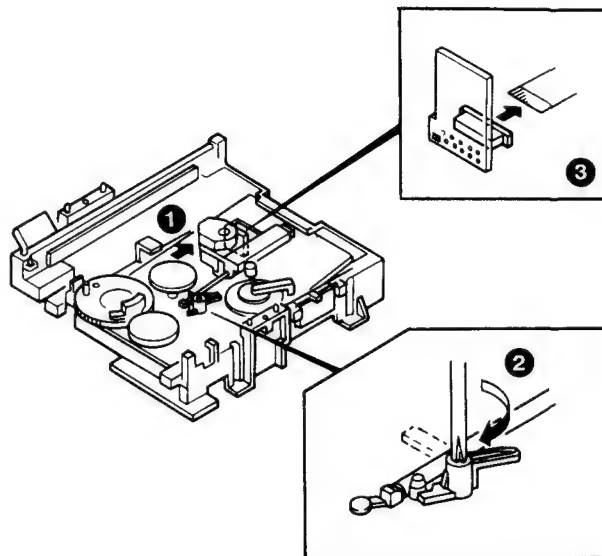


DISASSEMBLY FOR REPAIR

4) How to Replace the Pickup

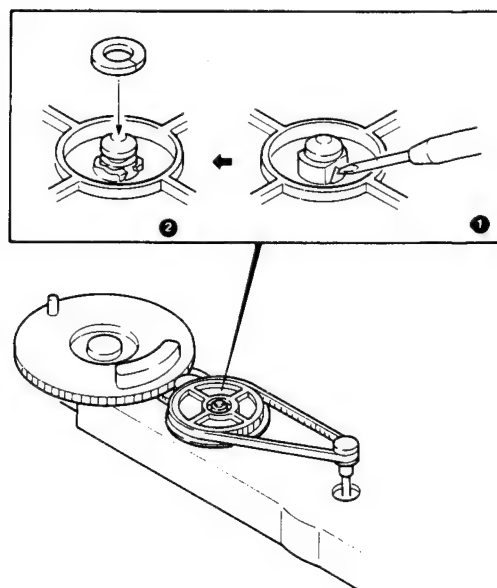
1. Remove the clamber ass'y and pull out the tray.
2. Move the pickup to center position of its all travel (❶), and turn the stopper to clockwise (❷).
3. Remove the flexible and pickup (❸).

Note : When mounting the pickup, in the reverse order of disassembly.



5) How to Replace the Loading Gear

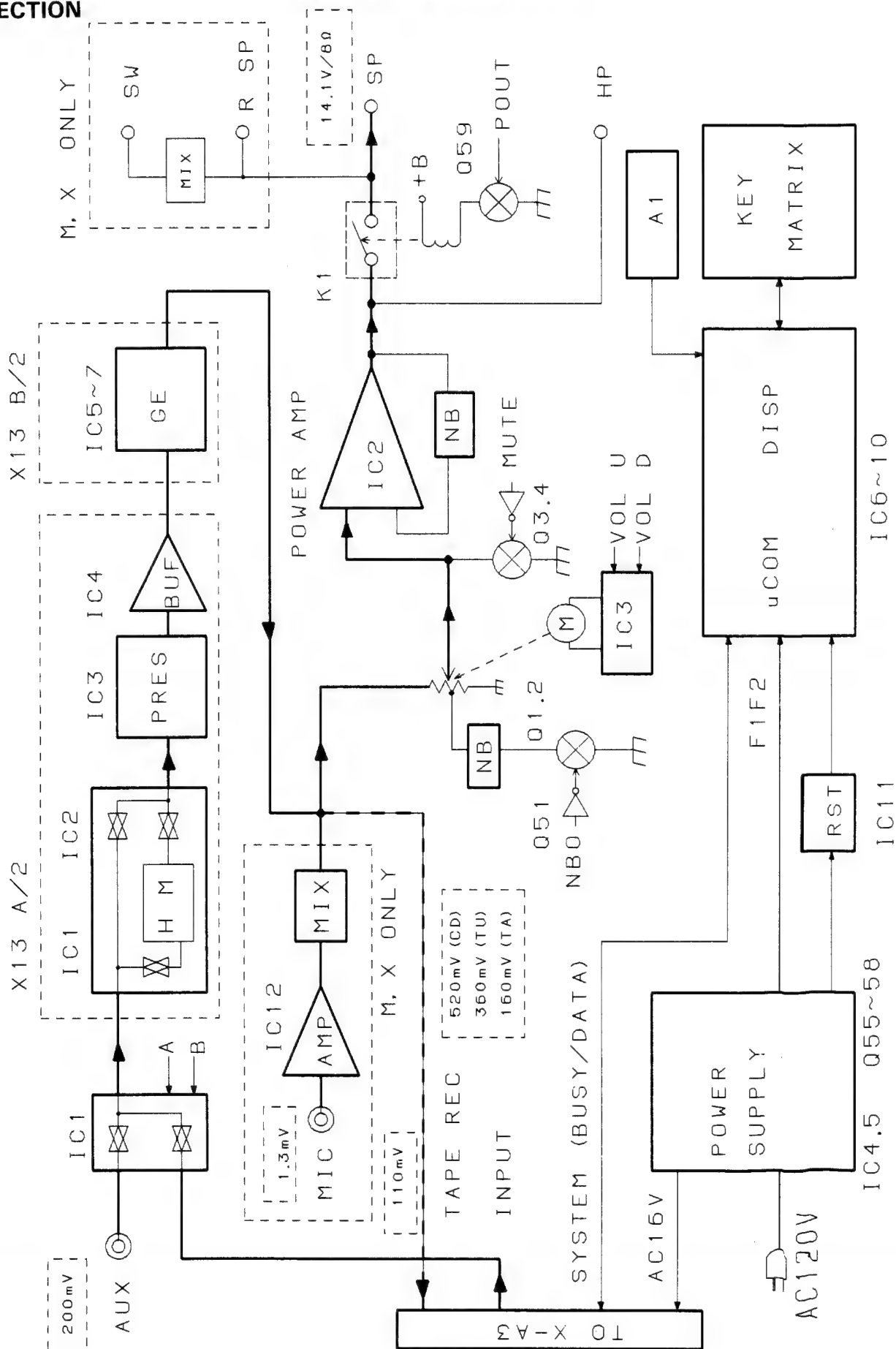
1. Spread the hole of gear shaft (❶).
2. When gear is broken, use the cut washer (❷) (parts no. N19-1179-05)



UD-300

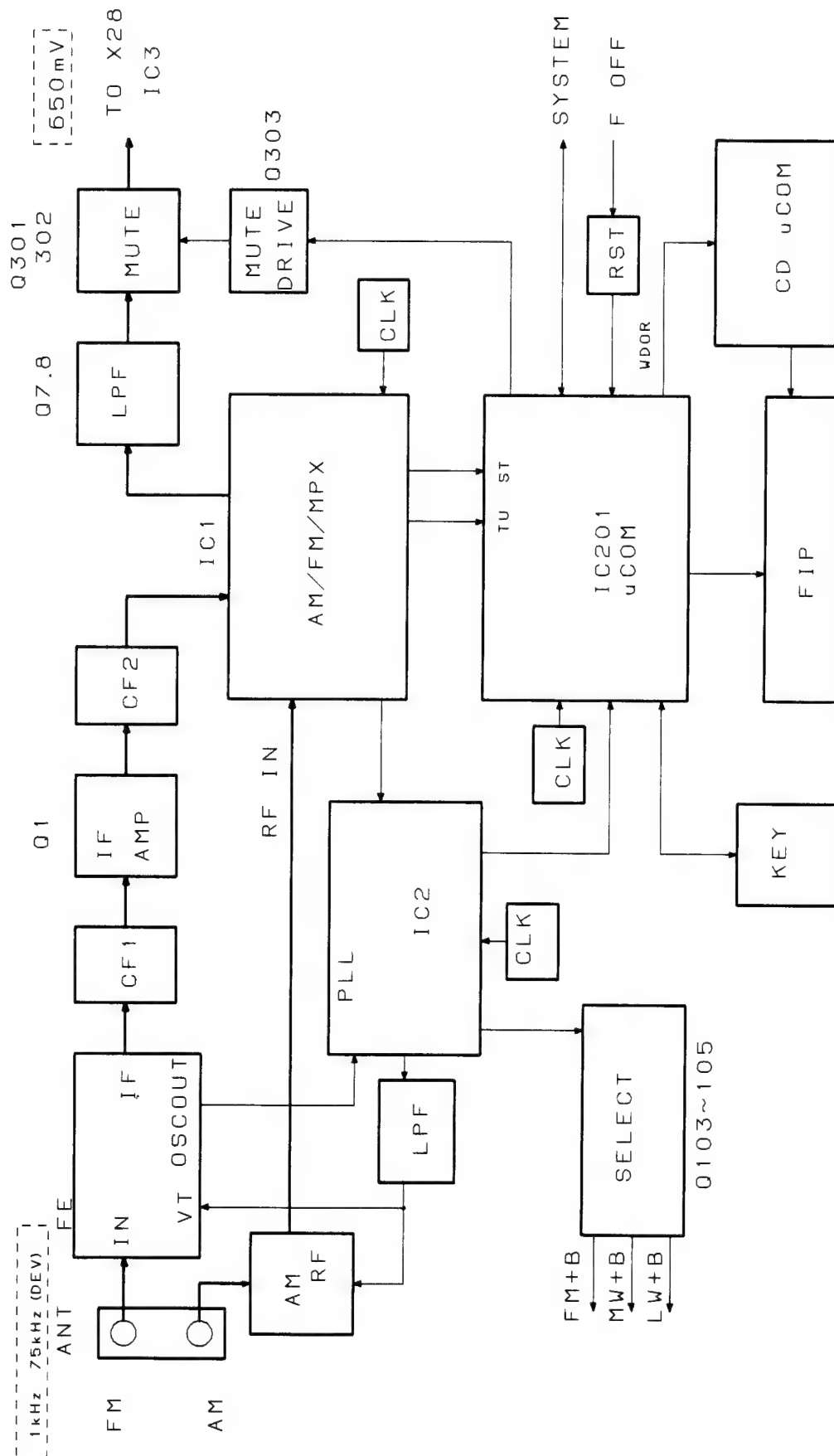
BLOCK DIAGRAM

AMP SECTION



BLOCK DIAGRAM

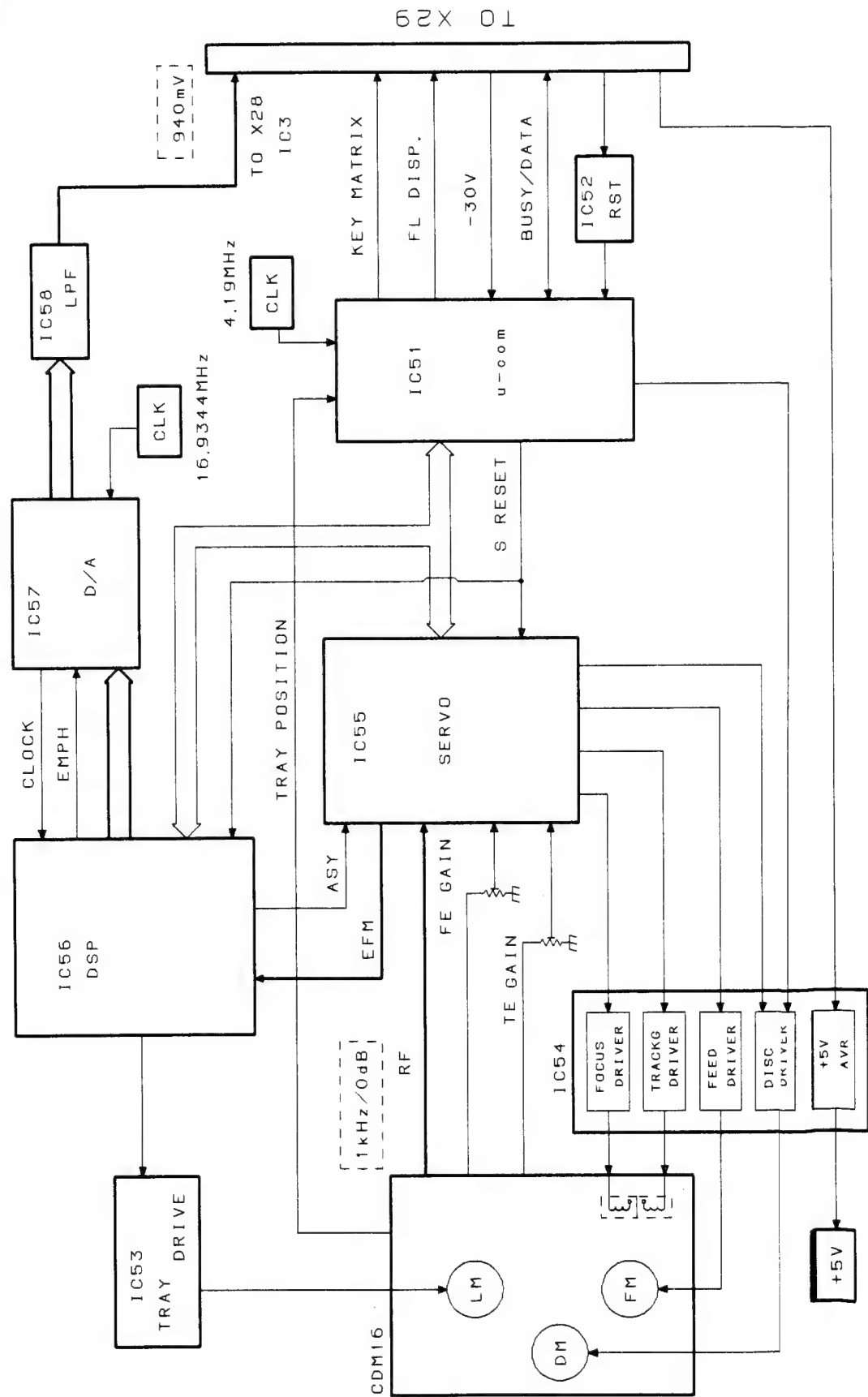
TUNER SECTION



UD-300

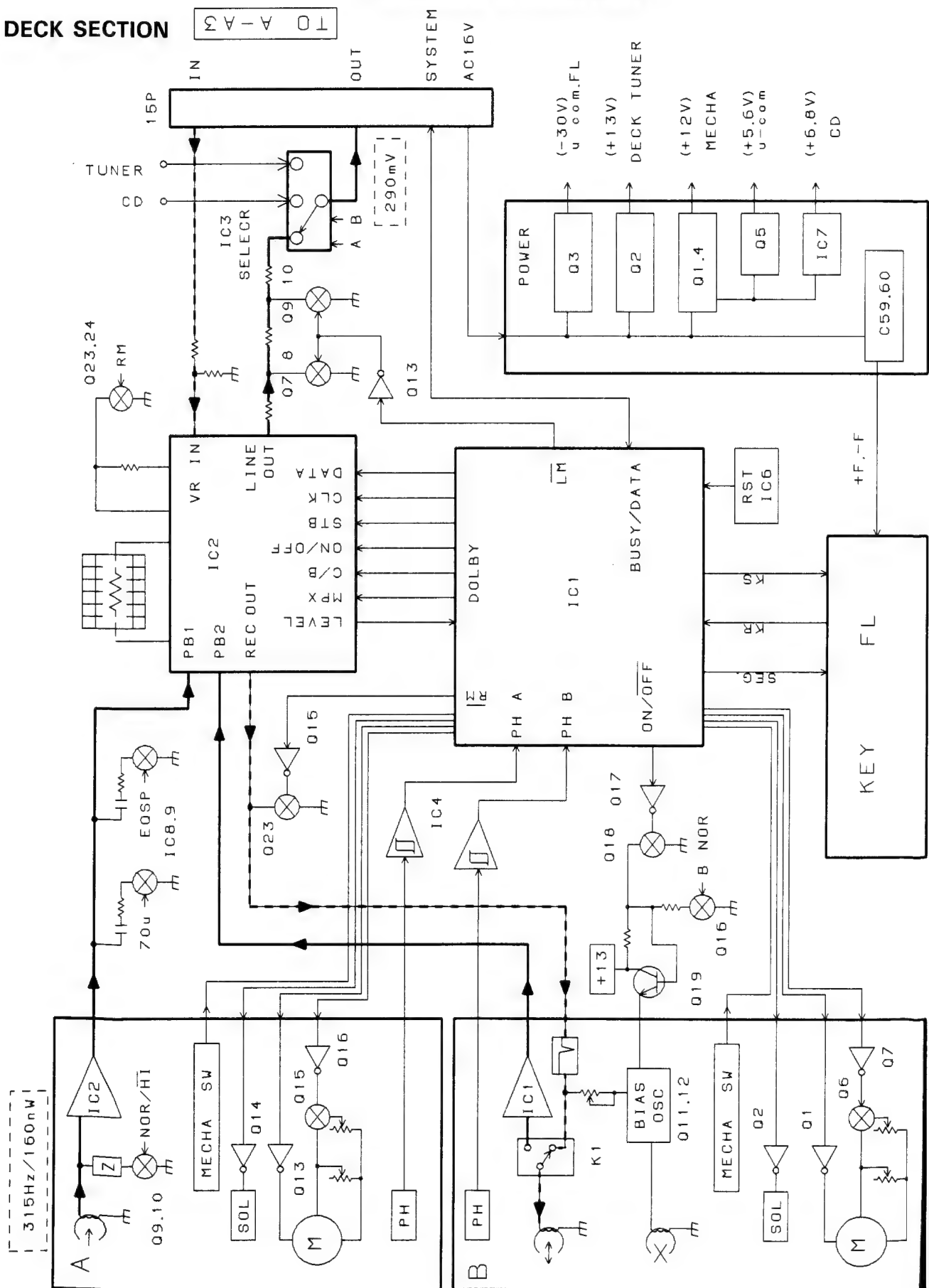
BLOCK DIAGRAM

CD SECTION



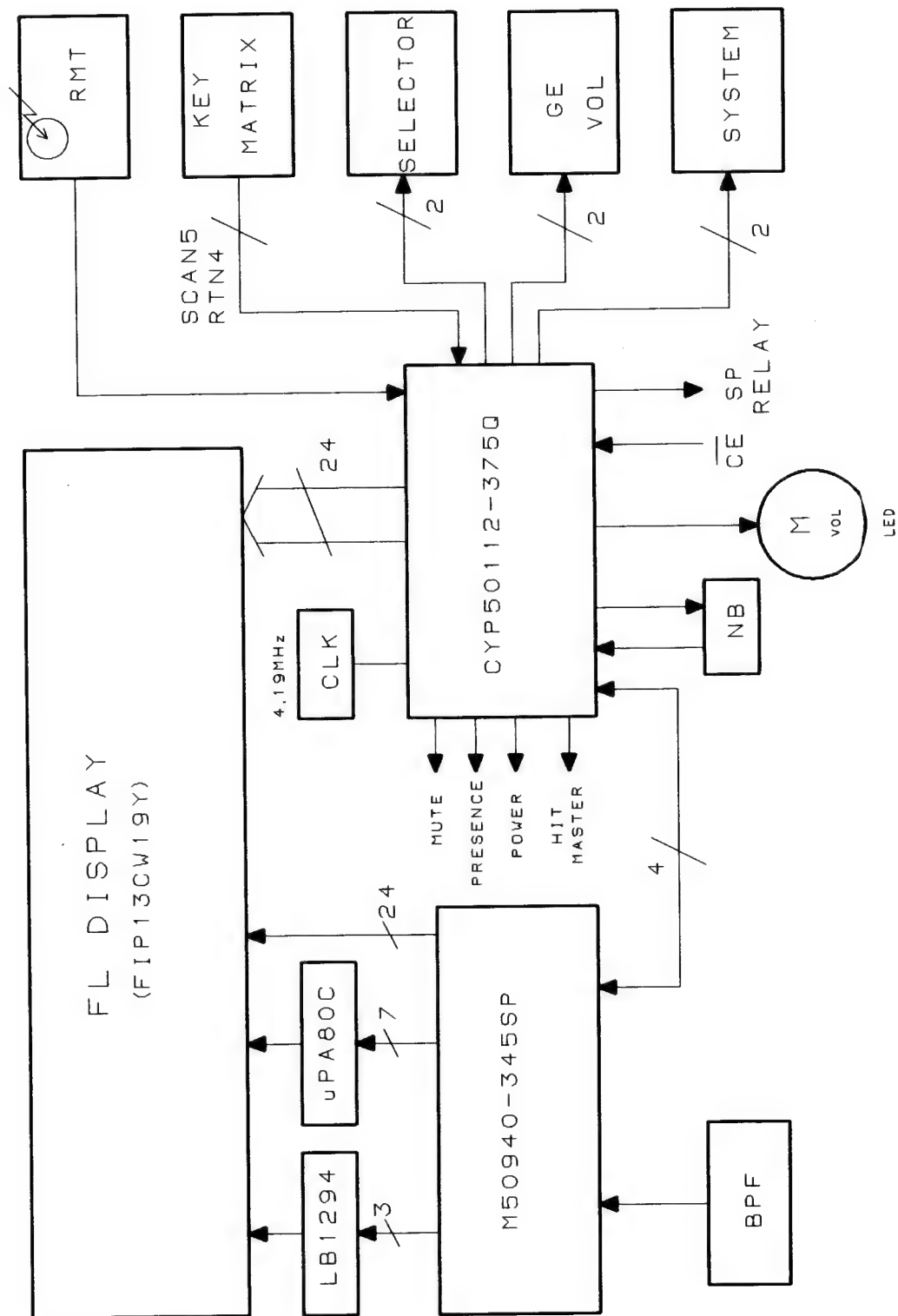
BLOCK DIAGRAM

DECK SECTION



CIRCUIT DIAGRAM

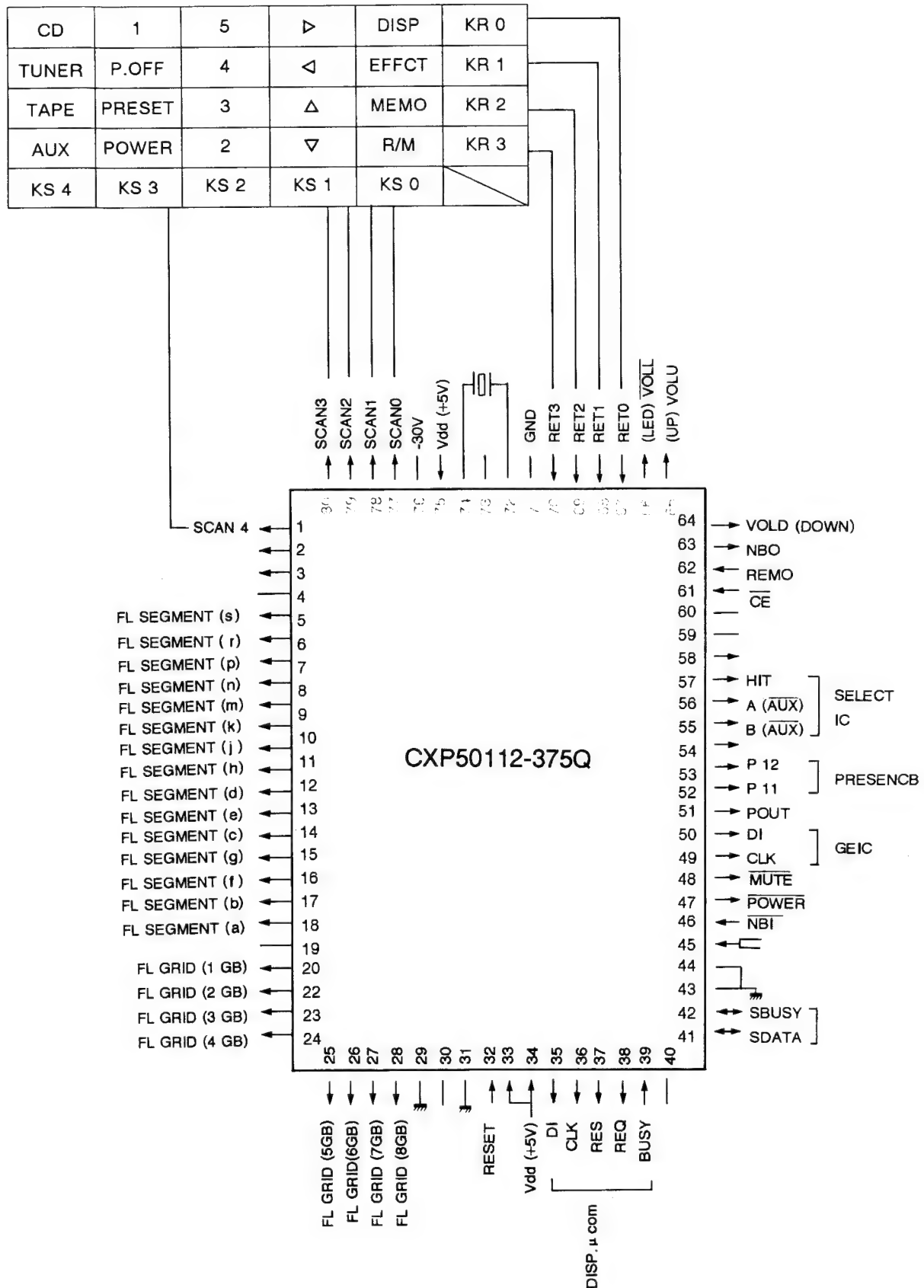
Terminal connection diagram (A-A3)



CIRCUIT DIAGRAM

Microprocessor: (CXP50112-375Q or CXP50112-388Q)

Pin connection



CIRCUIT DESCRIPTION

PIN DESCRIPTIONS (CXP50112-375Q or CXP50112-388Q)

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION
1	PG0	O	SCAN4
2	PG1	—	NC
3	PG2	—	NC
4	PG3	—	NC
5	PK0	O	FL SEGMENT (s)
6	PK1	O	FL SEGMENT (r)
7	PK2	O	FL SEGMENT (p)
8	PK3	O	FL SEGMENT (n)
9	PJ0	O	FL SEGMENT (m)
10	PJ1	O	FL SEGMENT (k)
11	PJ2	O	FL SEGMENT (j)
12	PJ3	O	FL SEGMENT (h)
13	T15	O	FL SEGMENT (d)
14	T14	O	FL SEGMENT (e)
15	T13	O	FL SEGMENT (c)
16	T12	O	FL SEGMENT (g)
17	T11	O	FL SEGMENT (f)
18	T10	O	FL SEGMENT (b)
19	T9	O	FL SEGMENT (a)
20	T8	—	NC
21	T7	O	FL GRID (1GB)
22	T6	O	FL GRID (2GB)
23	T5	O	FL GRID (3GB)
24	T4	O	FL GRID (4GB)
25	T3	O	FL GRID (5GB)
26	T2	O	FL GRID (6GB)
27	T1	O	FL GRID (7GB)
28	T0	O	FL GRID (8GB)
29	INT	—	GND
30	TX	—	NC
31	TEX	—	GND
32	RES	I	RESET
33	NC	—	NC
34	Vdd	—	Vdd (+5V)
35	PI0	O	DI (for DISP μ -com)
36	PI1	O	CLK (for DISP μ -com)
37	PI2	O	RES (for DISP μ -com)
38	PI3	O	REQ (for DISP μ -com)
39	PB0	I	BUSY (for DISP μ -com)
40	PB1	—	NC
41	PB2	I/O	SDATA
42	PB3	I/O	SBUSY

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION																					
43	\overline{EC}	—	GND																					
44	PX0	—	GND																					
45	PX1	—	NC																					
46	PX2	I	\overline{NBI}	H: OFF	L: ON																			
47	PA0	O	POWER	H: OFF	L: ON																			
48	PA1	O	MUTE																					
49	PA2	O	CLK (for GE IC)																					
50	PA3	O	DI (for GE IC)																					
51	PF0	O	POUT (for SP RELAY) H: ON L: OFF																					
52	PF1	O	PI1	<table><tr><td>P.MODE</td><td>PI1</td><td>PI2</td></tr><tr><td>ARENA</td><td>I</td><td>I</td></tr><tr><td>STADIUM</td><td>I</td><td>I</td></tr><tr><td>JAZZ</td><td>I</td><td>0</td></tr><tr><td>HIT</td><td>I</td><td>0</td></tr><tr><td>OFF</td><td>0</td><td>0</td></tr></table>			P.MODE	PI1	PI2	ARENA	I	I	STADIUM	I	I	JAZZ	I	0	HIT	I	0	OFF	0	0
P.MODE	PI1	PI2																						
ARENA	I	I																						
STADIUM	I	I																						
JAZZ	I	0																						
HIT	I	0																						
OFF	0	0																						
53	PF2	O	PI2																					
54	PF3		NC																					
55	PE0	O	AUX																					
56	PE1	O	\overline{AUX}																					
57	PE2	O	HIT.M	H: ON																				
58	PE3	—	NC																					
59	PY0	—	NC																					
60	PY1	—	NC																					
61	PY2	I	\overline{CE} (BACK UP: L)																					
62	PY3	I	REMO																					
63	PD0	O	NBO																					
64	PD1	O	VOLD																					
65	PD2	O	VOLU																					
66	PD3	O	\overline{VOLL}																					
67	PC0	I	RET0																					
68	PC1	I	RET1																					
69	PC2	I	RET2																					
70	PC3	I	RET3																					
71	Vss	—	Vss	GND																				
72	XTAL	—	XTAL																					
73	NC	—	NC																					
74	EXTAL	—	EXTAL																					
75	Vdd	—	Vref (+5V)																					
76	Vfdp	—	Vfdp (–30V)																					
77	SCAN0	O	S0																					
78	SCAN1	O	S1																					
79	SCAN2	O	S2																					
80	SCAN3	O	S3																					

CIRCUIT DESCRIPTION

Initial condition

INPUT SELECTOR	TUNER
PRESENCE MODE	OFF
EFFECT	OFF
MANU/REFER	MANU
N.B	OFF
GE	FLAT (0dB)

Test mode

1)Operation

Insert the AC plug into the wall outlet while holding down the selector "CD" key.

2)Cancel

Power OFF.

3)Content

a)Indicators lighting test.

All the indicator are turned ON at first, and they are returned to the normal indication when any key is pressed.

Set the contents of memories M1~ M5 as follows.

M1,4 -12dB

M2,5 0dB

M3 +12dB

In all the range of frequency, the EQ leve "UP" key is used to set three points of +12dB,0dB and -12dB.

b)Motor volume test

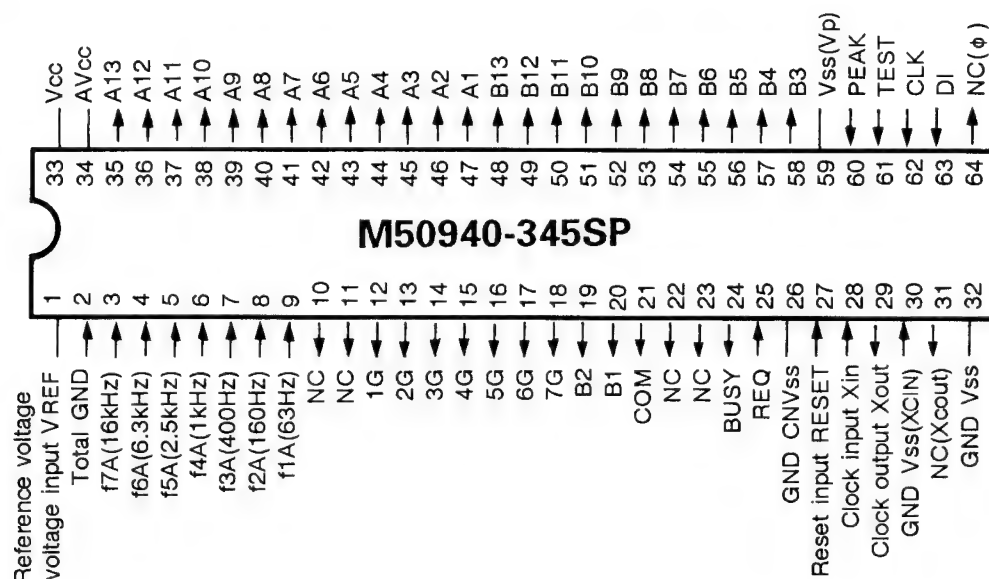
Sets the contents of EQ level control keys, " ► " , " ◀ " and " ▼ " as follws.

-Volume up.
- ◀Volume down.
- ▼Volume stop.

CIRCUIT DESCRIPTION

GE microprocessor : M50940-345SP

Pin connection

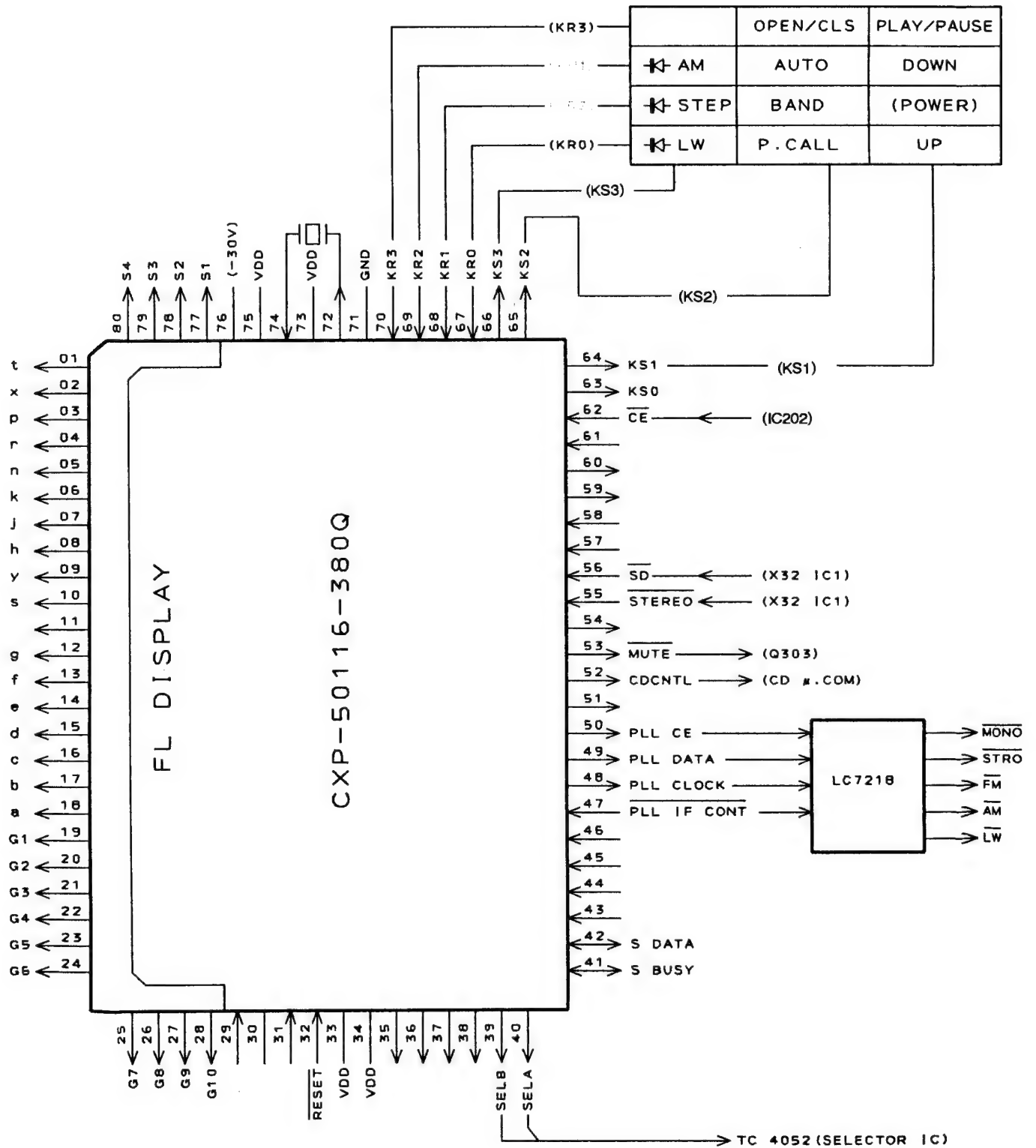


Pin function

Pin No.	Pin name	I/O	Name	Description
1	VREF	—	VREF	Reference voltage input for A/D converter.
2	IN7	I	Total	Not used (GND).
3 ~ 9	IN6 ~ 0		f7A ~ f1A	f7A ~ f1A (16k, 6.3k, 2.5k, 1k, 400, 160, 63Hz) level analog input.
10, 11	P47, 46		—	Not used (Open).
12 ~ 18	P45 ~ 40, 37		1GB ~ 7GB	FL grid drive (1GB ~ 7GB).
19 ~ 21	P34 ~ 36	O	B2, B1, COM	FL segment drive
22, 23	P32, 33			Not used (Open).
24	P31		BUSY	BUSY signal output pin for communicating to main microprocessor.
25	P30	I	REQ	REQ signal input pin for communicating to main microprocessor.
26	CNVss	—	—	Connect the GND.
27	RESET	I	RESET	Reset pin (H: Normal, L: Reset).
28	XIN		—	Oscillator connect pin (4MHz).
29	XOUT	O		
30	XCIN	I		Not used (GND).
31	XCOUNT	O		Not used (Open).
32	Vss	—		GND pin.
33	—	O		Not used (Open).
34	R3		DI	DATA signal input pin for communicating to main microprocessor.
35	R2	I	CLK	CLOCK signal input pin for communicating to main microprocessor.
36	R1		TEST	Test mode setting pin (H: Test, L: Normal). Not Used.
37	R0		PEAK	Peak hold detection (H: Without, L: With). Not Used.
38	VP	—	—	Connect the - 30V.
39 ~ 49	P17 ~ P05		B3 ~ B13	FI segment drive (16B ~ 26B), (H: ON, L: OFF).
50 ~ 62	P04 ~ P00 P27 ~ P20	O	A1 ~ A13	FL segment drive (1B ~ 13B), (H: ON, L: OFF).
63, 64	AVcc, Vcc	—	—	Power supply pin (+ 5V).

CIRCUIT DIAGRAM

FL DISPLAY (CXP50116-380Q)



CIRCUIT DESCRIPTION

Pin descriptions (CXP50116-380Q)

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION
1	PG0	O	FL SEGMENT (t)
2	PG1	O	FL SEGMENT (x)
3	PG2	O	FL SEGMENT (p)
4	PG3	O	FL SEGMENT (r)
5	PK0	O	FL SEGMENT (n)
6	PK1	O	FL SEGMENT (k)
7	PK2	O	FL SEGMENT (j)
8	PK3	O	FL SEGMENT (h)
9	PJ0	O	FL SEGMENT (y)
10	PJ1	O	FL SEGMENT (s)
11	PJ2	O	FL SEGMENT (m)
12	PJ3	O	FL SEGMENT (g)
13	T15	O	FL SEGMENT (f)
14	T14	O	FL SEGMENT (e)
15	T13	O	FL SEGMENT (d)
16	T12	O	FL SEGMENT (c)
17	T11	O	FL SEGMENT (b)
18	T10	O	FL SEGMENT (a)
19	T9	O	FL GRID (1G)
20	T8	O	FL GRID (2G)
21	T7	O	FL GRID (3G)
22	T6	O	FL GRID (4G)
23	T5	O	FL GRID (5G)
24	T4	O	FL GRID (6G)
25	T3	O	FL GRID (7G)
26	T2	O	FL GRID (8G)
27	T1	O	FL GRID (9G)
28	T0	O	FL GRID (10G)
29	INT	I	GND
30	TX	O	NC
31	TEX	I	GND
32	RES	I	RESET
33	NC	—	Vdd
34	Vdd	—	Vdd (+5V)
35	PIO	I	GND
36	PI1	I	GND
37	PI2	I	GND
38	PI3	I	GND
39	PB0	O	SEL B
40	PB1	O	SEL A

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION
41	PB2	I/O	SDATA
42	PB3	I/O	SBUSY
43	\overline{EC}	I	GND
44	PX0	I	GND
45	PX1	I	GND
46	PX2	I	GND
47	PA0	I	PLL IF
48	PA1	O	PLL CK
49	PA2	O	PLL DT
50	PA3	O	PLL CE
51	PFO	O	GND
52	PF1	O	CDCNTL L: TUNER H: CD
53	PF2	O	\overline{MUTE} L: ON H: OFF
54	PF3	O	POWER L: OFF H: ON
55	PE0	I	\overline{STEREO} L: MONO H: ST
56	PE1	I	\overline{SD} L: TUNED
57	PE2	I	GND
58	PE3	I	GND
59	PY0	O	—
60	PY1	O	—
61	PY2	I	\overline{CE} (BACK UP: L)
62	PY3	I	GND
63	PD0	O	GND
64	PD1	O	KS1
65	PD2	O	KS2
66	PD3	O	KS3
67	PC0	I	KR0
68	PC1	I	KR1
69	PC2	I	KR2
70	PC3	I	KR3
71	Vss	—	Vss GND
72	XTAL	O	XTAL
73	NC	—	NC
74	EXTAL	I	EXTAL
75	Vdd	—	Vref (+5V)
76	Vfdp	—	Vfdp (–30V)
77	SCAN0	O	FL SEGMENT (S1)
78	SCAN1	O	FL SEGMENT (S2)
79	SCAN2	O	FL SEGMENT (S3)
80	SCAN3	O	FL SEGMENT (S4)

CIRCUIT DESCRIPTION

Test mode (without A-A3)

Setting of tuner test mode

(1) Method

While pressing "DOWN" key, turn the AC ON.

(2) Contents

Power ON

FL all lit

Selector TUNER

Test frequency setting (table 1)

TYPE CH	OTHER T, E TYPE		T, E TYPE	
	NARROW	WIDE	LW/MW	MW
1	FM 98.0MHz	FM 98.0MHz	FM 98.0MHz	FM 98.0MHz
2	FM108.0MHz	FM108.0MHz	FM108.0MHz	FM108.0MHz
3	AM 630KHz	AM 630KHz	AM 630KHz	AM 630KHz
4	AM 990KHz	AM 990KHz	AM 990KHz	AM 990KHz
5	AM 1440KHz	AM 1440KHz	AM 1440KHz	AM 1440KHz
6	AM 1610KHz	AM 1610KHz	AM 1602KHz	AM 1602KHz
7	FM 87.5MHz	AM 1700KHz	LW 162KHz	FM 87.5MHz
8	FM 87.5MHz	FM 87.5MHz	LW 216KHz	FM 87.5MHz
9	FM 87.5MHz	FM 87.5MHz	LW 270KHz	FM 87.5MHz
10	FM 89.1MHz	FM 89.1KHz	FM 89.1MHz	FM 89.1MHz
11	FM 87.5MHz	FM 87.5MHz	LW 279KHz	FM 87.5MHz
12	FM 90.0MHz	FM 90.0MHz	FM 90.0MHz	FM 90.0MHz
13	FM106.0MHz	FM106.0MHz	FM 106.0KHz	FM 106.0KHz
14	AM 530KHz	AM 530KHz	AM 531KHz	AM 531KHz
15	FM 87.5MHz	FM 87.5MHz	LW 153KHz	FM 87.5MHz
16	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
17	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
18	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
19	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
20	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz

Setting of deck test mode.

(1) Method

While pressing "UP" key, turn the AC ON.

(2) Contents

Power ON

Selector DECK

Setting of CD test mode.

(1) Method

While pressing "PLAY/PAUSE" key, turn the AC ON.

Then just short-circuiting the TP7 and TP8.

(2) Contents

Power ON.

Selector CD

Setting of initial conditions (reset)

(1) Method

While pressing "P.CALL" key, turn the AC ON.

(2) Contents

Clears all the memory and returns to the initial conditions.

However, the test frequency in newly memorized in the preset memory at this time.

Conditions by destination

TYPE	Diode SW				BAND	f range	Channel space	IF	RF
	3	2	1	0					
M	0	1	0	0	FM	87.5 ~ 108.0MHz	100kHz	10.7MHz	50kHz
					AM	530 ~ 1610kHz	10kHz	450kHz	10kHz
K.P	0	1	1	0	FM	87.5 ~ 108.0MHz	100kHz	10.7MHz	50kHz
					AM	530 ~ 1700kHz	10kHz	450kHz	10kHz
M.X	0	0	0	0	FM	87.5 ~ 108.0MHz	50kHz	10.7MHz	50kHz
					AM	531 ~ 1602kHz	9kHz	450kHz	9kHz
T.E	0	0	0	1	FM	87.5 ~ 108.0MHz	50kHz	10.7MHz	50kHz
					MW	531 ~ 1602kHz	9kHz	450kHz	9kHz
					LW	153 ~ 279kHz	9kHz	450kHz	9kHz

1. With diode

D0 → D212

0. Without diode

D1 → D213

D2 → D214/D216

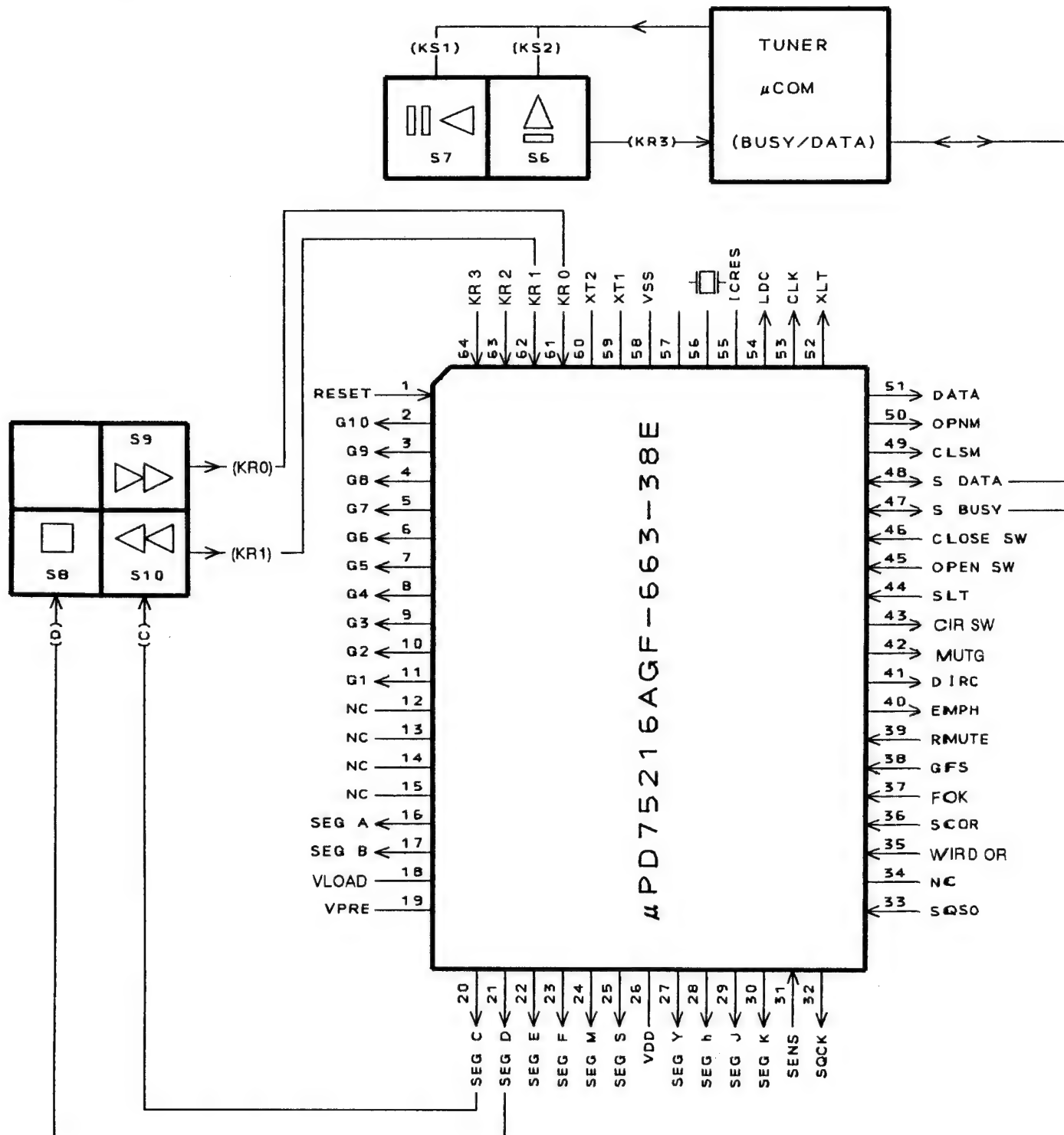
D3 —

UD-300

CIRCUIT DIAGRAM

CD: Microprocessor (μ PD75216AGF-663-38E)

Pin connection



CIRCUIT DESCRIPTION

Pin description

NO	PIN NAME	I/O	NAME	FUNCTION
1	RESET	I	RESET	Reset input (ACTIVE:L)
2~11	T0~T9	O	G10~G1	FL digit control terminals
3~15	T10~T13	—	NC	
16	T14	O	SEG A	
17	T15	O	SEG B	
18	VLOAD	I	VLOAD	FL driver negative power supply -30V
19	VPRE	I	VPRE	FL predriver power supply -5V
20~25	S9~S4	O	SEG C,D,E,F,M,S	C and D also used for key scan SIGNAL
26	VDD	I		+5V
27~30	S3~S0	O	SEG Y,R,J,K	—
31	INT4	I	SENS	Signal detection terminal for sense signal from processor and servo IC
32	SCK	O	SQCK	Q data read clock input terminal
33	SO	I	SQSO	Q data input terminal
34	SI	I		NC
35	INT0	I	WIRD OR	Display select
36	INT1	I	SCOR	Sub-code frame sync detection signal input
37	INT2	I	FOK	FOK signal from RF amp focus OK:H
38	T10	I	GFS	Frame sync signal input H:Frame sync
39	P20	O	R MUTE	Analog mute control ACTIVE:L
40	P21	O	EMPH	Not use
41	P22	O	DIRC	Dirc terminal of servo IC
42	P23	O	MUTG	Not use
43	P30	O	CIRSW	+5V ON/OFF control for CD
44	P31	I	SLTSW	SLED LIMIT switch INNER:L
45	P32	I	OPEN SW	TRAY OPEN switch OPEN:L
46	P33	I	CLOSE SW	TRAY CLOSE switch CLOSE:L
47	P60	I/O	SBUSY	—
48	P61	I/O	SDATA	—
49	P62	O	CLSM	TRAY motor close ACTIVE: H
50	P63	O	OPNM	TRAY motor open ACTIVE: H
51	P40	O	DATA	Signal processor and servo IC control DATA
52	P41	O	XLT	Signal processor and servo IC control LATCH
53	P42	O	CLK	Signal processor and servo IC control CLOCK
54	P43	O	LDC	Laser ON/OFF signal output ACTIVE:H
55	PR0	O	ICRES	
56	X1	I	—	Systemclock terminal
57	X2	O	—	Systemclock terminal
58	Vss	—	—	GND
59	XT1	—	—	GND
60	XT2	—	—	NC
61~64	P50~P53	I	KR0~KR3	—

CIRCUIT DESCRIPTION

Test Mode

Setting the Test Mode

This microprocessor built in this unit can be put to TEST MODE by just short-circuiting the test pins (# 7 and #8).

The TEST MODE can be also initiated with short-circuiting the test pins when tray is OPEN. If unit is in test mode, TRACK No. displays "05".

1-2. Key and functions valid in test mode

No.	Input key	Function	Track No. display
1	PLAY ▷	(1) Focusing servo ON (2) Tracking servo ON (3) Feed servo ON	TRACK NO. 05 ↓ Displayed for a few seconds after completion (1), (2) and (3). ↓ Disc Track No. is displayed.
2	UP ⏮	(1) Focusing servo ON (2) Tracking servo OFF (3) Feed servo OFF	TRACK NO. 03
3	STOP	(1) Focusing servo OFF (2) Tracking servo OFF (3) Feed servo OFF	TRACK NO. 01
4	DOWN ⏭	Track No. 7, 8, and 6 (High-speed) are programmed and playback from Track No. 7. The test mode is cancelled.	-
5	OPEN/CLOSE △	When the tray is opened then closed. Track No. 7, 8, and 6 are programmed and set is in STOP mode. The test mode is cancelled.	TRACK NO. 07

INITIAL SET-UP

SYSTEM	OFF	WIRD OR	LOW (TUNER)
LDC	LOW	DIRC	HIGH
CIRSW	LOW	TIME	SINGLE INCS
ICRESET	LOW	MODE	TRACK
DSP IC	DEAD	REPEAT	OFF

Pinout diagram for DECK μ-COM (IC1) showing connections for various functions. The diagram includes pins 1 through 80, with labels for functions such as SOL, CPM, BUSY, DATA, KR4, KR3, KR2, KR1, KR0, MPX ON/OFF, DOLBY B/C, DOLBY ON/OFF, DATA, STB, CLK, B-R/P, LM, NOR DVB, PH IN B, PH IN A, TEST1, BIAS ON/OFF, B-NOR, PB EQ 70/120, VDD, VFD, XTAL, RESET, LEVEL L, LEVEL R, CDS, CPM, SOL, S12, S11, S10, S9, S8, S7, S6, S5, S4, S3, S2, S1, S13, S14, S15, S16, S17, S18, S19, S20, S21, KS0, KS1, KS2, KS3, KS4, DOLBY B, DOLBY C, CCRS, CRLS, HI-DUB, and a table for KRS, KRD, KS4, KS3, KS2, KS1, KS0.

KRS	KRD	KS4	KS3	KS2	KS1	KS0
KRS	DUB	REC	RWD	A Cro2	B Cro2	
KR2	HI-DUB	A/B	FWD	HALF	HALF	
KR1	CRLS	DIR	RVS	A PLAY	B PLAY	
KRD	CCRS					

KR4		DOLBY		F. REC
KR3	DUB	STOP	FF	R. REC
KR2	H1-DUB	REC	RWD	A CROZ B croz
KR1	CRLS	A/B	FWD	A HALF B HALF
KR0	CCRS	DIR	RVS	A PLAY B PLAY
KS4	KS3	KS2	KS1	KS0

CIRCUIT DESCRIPTION

PIN No	NAME	I/O	SYMBOL/FUNCTION
1	PE3	I	TEST 1
2	PE4	I	PHA
3	PE5	I	PHB
4	PE6	O	NOR DUBB [DISPLAY]
5	PE7	O	NC
6	PB0	O	LM
7	PB1	O	R/B
8	PB2	O	CLK
9	PB3	O	DATA
10	PB4	O	STB
11	PB5	O	DOL NO/OFF
12	PB6	O	DOL B/C
13	PB7	O	MPX ON/OFF
14	PC0	I	KR0
15	PC1	I	KR1
16	PC2	I	KR2
17	PC3	I	KR3
18	PC4	I	KR4
19	PC5	O	RM
20	PC6	I/O	DATA
21	PC7	I/O	BUSY
22	PA0	O	SOL
23	PA1	O	CAP
24	PA2	O	SP
25	PA3	O	SOL
26	PA4	O	CAP
27	PA5	O	SP
28	PA6	I	L LEVEL INPUT
29	PA7	I	R LEVEL INPUT
30	RST	I	RESET
31	EXTAL	—	—
32	XTAL	—	—
33	Vss	—	GND

SYSTEM IC CONTROL

PIN No	NAME	I/O	SYMBOL/FUNCTION
34	PD0	O	TAPE A
35	PD1	O	◁
36	PD2	O	▷
37	PD3	O	()
38	PD4	O	↔
39	PD5	O	TAPE B
40	PD6	O	◁
41	PD7	O	▷
42	PF0	O	REC ○
43	PF1	O	II
44	PF2	O	DOLBY
45	PF3	O	B
46	PF4	O	C
47	PF5	O	CCRS
48	PF6	O	CRLS
49	PF7	O	HIGH-DUBB
50	S16	O	KS0
51	S17	O	KS1
52	S18	O	KS2
53	S19	O	KS3
54	S20	O	KS4
55	—	—	NC
70	—	—	NC
71	VFDP	I	−30V
72	V _{DD}	I	+5V
73	—	—	NC
74	PG0	O	PBEQ 70/120
75	PG1	—	NC
76	PG2	O	BIAS NOR/CrO ₂
77	PG3	O	BIAS ON/OFF
78	PE0	I	PULL UP
79	PE1	I	PULL UP
80	PE2	I	TEST 2

DISPLAY CONTROL

CIRCUIT DESCRIPTION

Test mode

1) Method

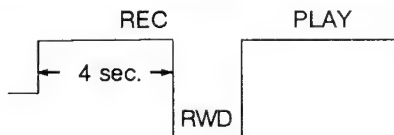
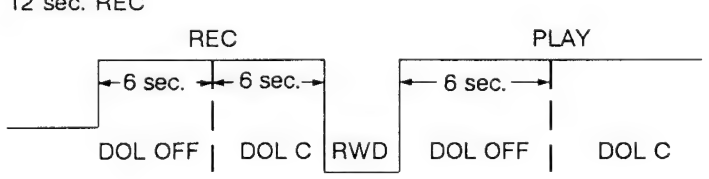
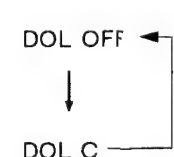
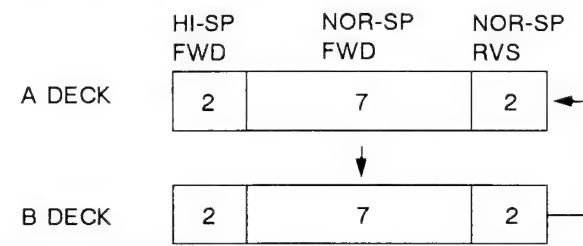
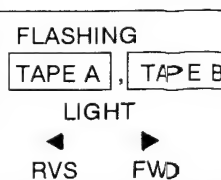
TEST 1 : While pressing "STOP" key, turn the AC ON.

TEST 2 : While pressing "one way mode" key, turn the AC ON.

2) Cancellation

Power OFF

3) Operation

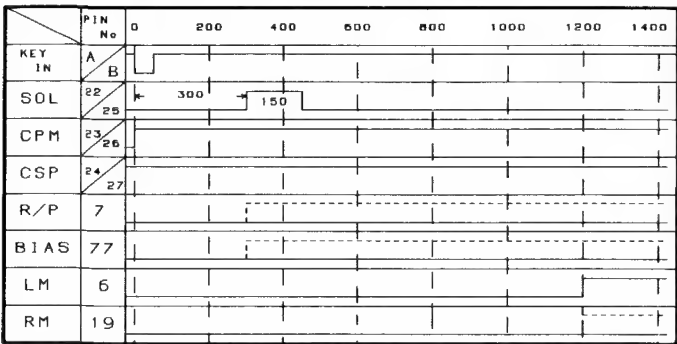
	NO	KEY	OPERATION	DISPLAY
TEST1	1	REC	4 sec. REC 	
	2	CCRS	12 sec. REC 	
	3	CRLS	A,B MECHA CHECK.(PLAY MODE) 	
	4		REEL PULS CHECK. REC INHIBIT SW CHECK.(B DECK)	
TEST2	5	CCRS	INPUT LEVEL ATTENUATION. PRESSING THE "CCRS" KEY DURING IN REC MODE.	

UD-300

CIRCUIT DESCRIPTION

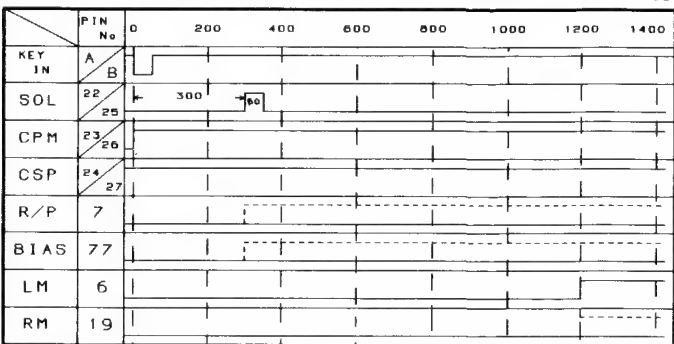
STOP TO FWD PLAY/REC(-----)

UNIT mS



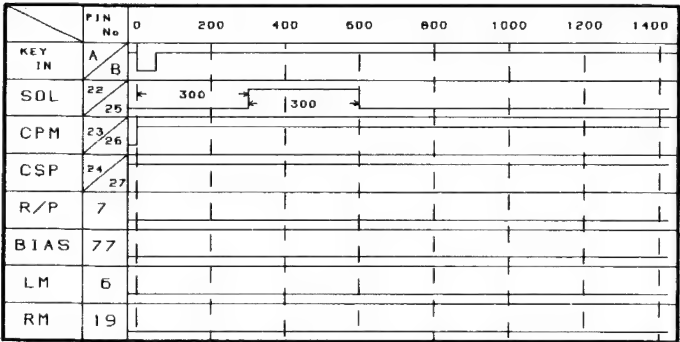
STOP TO RVS PLAY/REC(-----)

UNIT mS



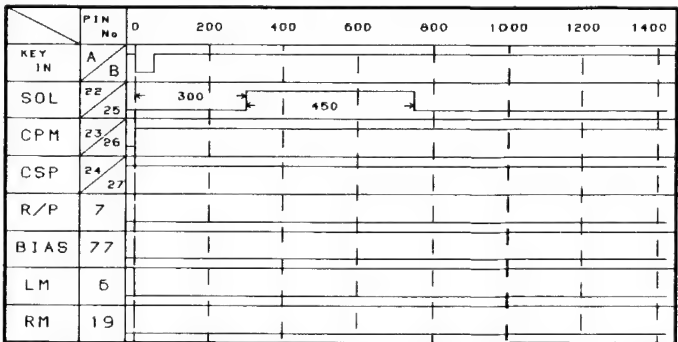
STOP TO FF

UNIT mS



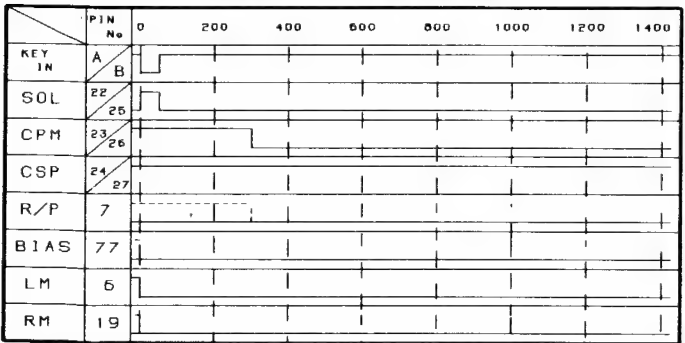
STOP TO RWD

UNIT mS



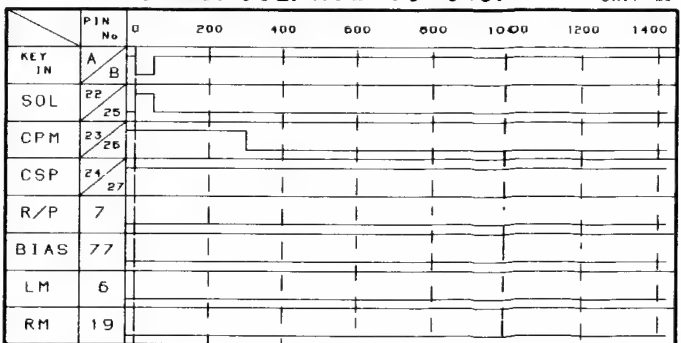
PLAY/REC(-----) TO STOP

UNIT mS



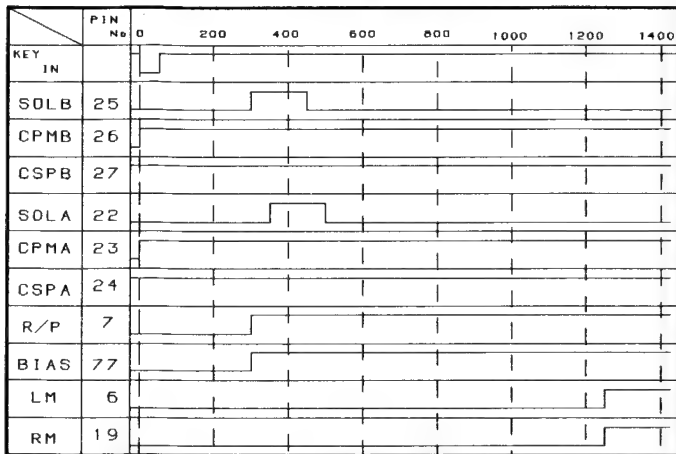
FF/RWD/CUE/RVW TO STOP

UNIT mS

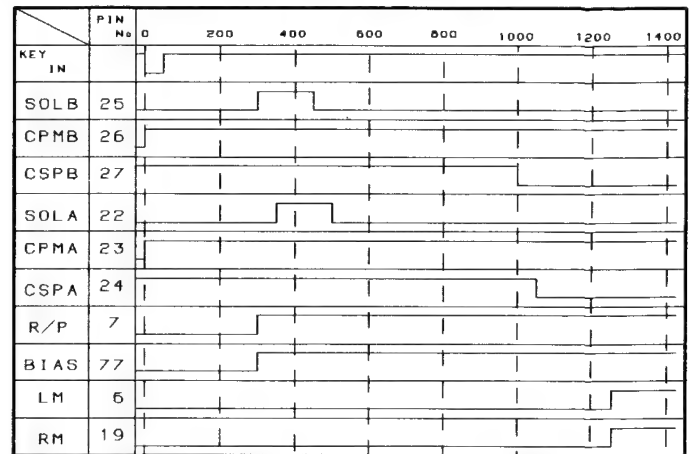


CIRCUIT DESCRIPTION

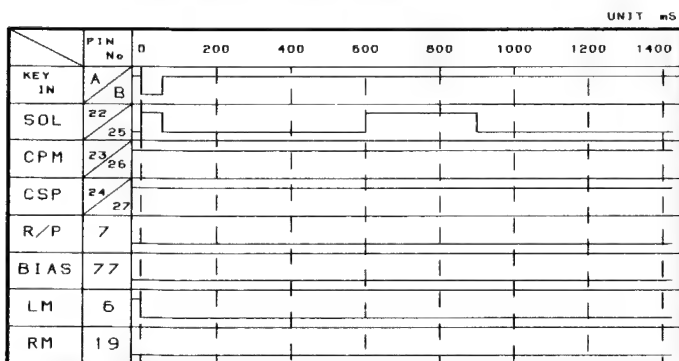
STOP TO NOR DUBBING



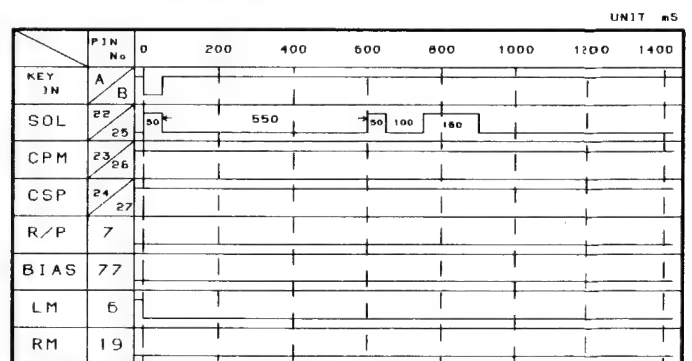
STOP TO HI DUBBING



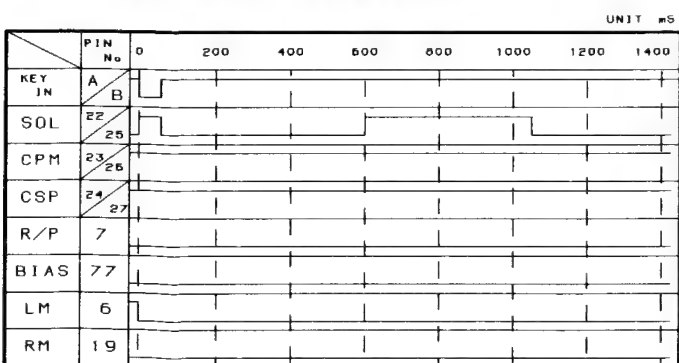
FWD PLAY TO CUE



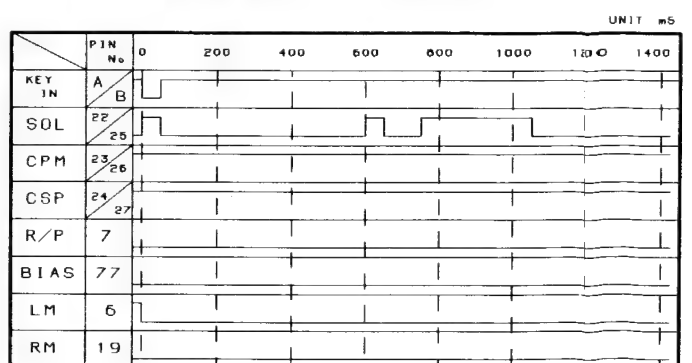
RVS PLAY TO CUE



FWD PLAY TO REW



RVS PLAY TO REW



UD-300

CIRCUIT DESCRIPTION

The TDA3810 integrated circuit provides spatial, stereo and pseudo-stereo sound for radio and television equipment.

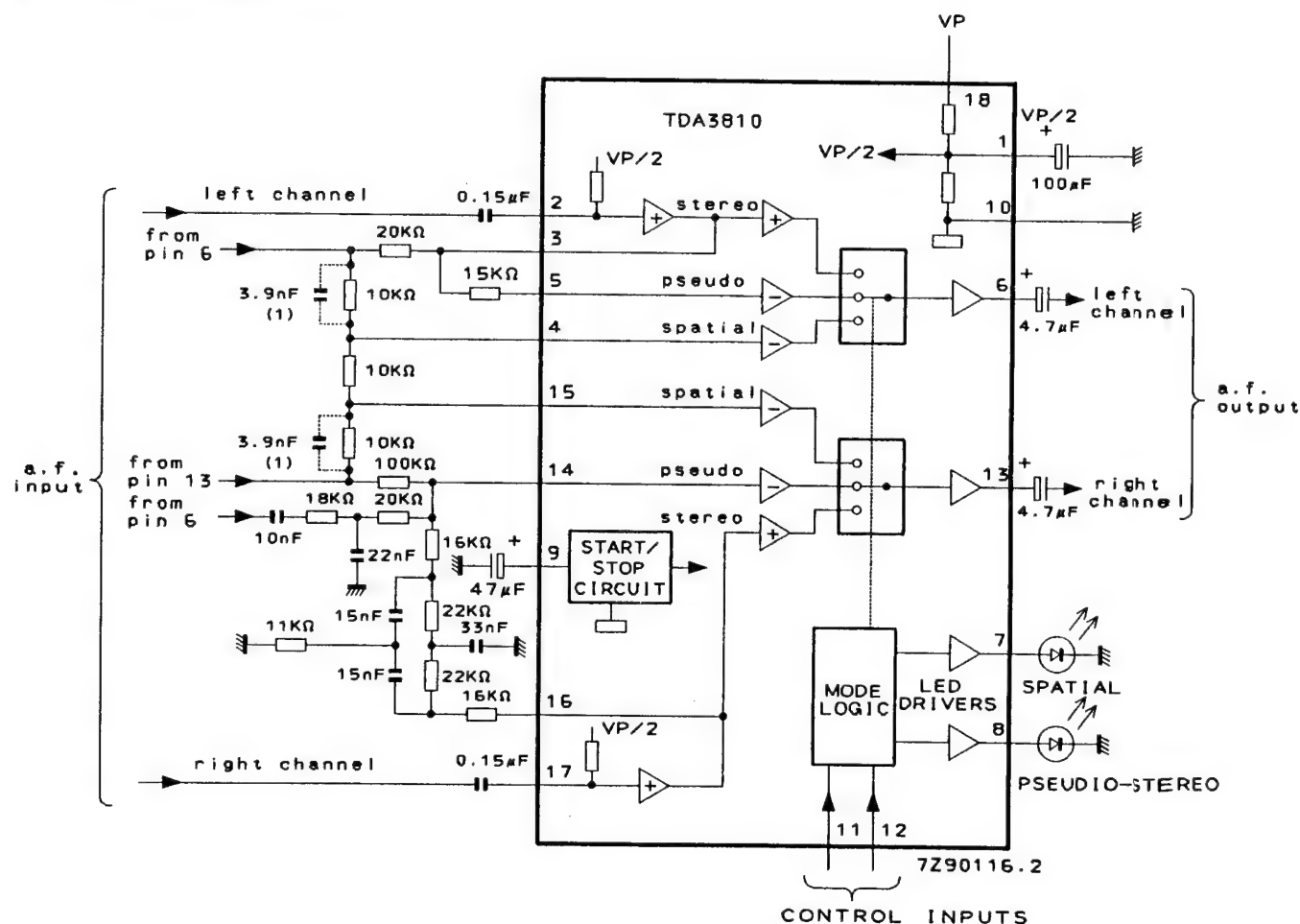
Features

- Three switched functions: Spatial (widened stereo image)

Stereo

Pseudo-stereo (artificial stereo from a mono source)

- Offset compensated operational amplifiers to reduce switch noise
- LED driver outputs to facilitate indicator of selected operating mode
- Start/stop circuit to reduce switch noise and to prevent LED-flicker
- TTL-compatible control inputs



Truth table

Mode	Control input state		LED Spatial pin 7	LED Pseudo pin 8
	pin 11	pin 12		
Mono pseudo-stereo	HIGH	LOW	off	on
Spatial stereo	HIGH	HIGH	on	off
Stereo	LOW	X	off	off

MODE	PIN 11	PIN 12
ARENA	1	1
STADILIM	1	1
JAZZ	1	0
HIT-MASTER	1	0
OFF	0	0

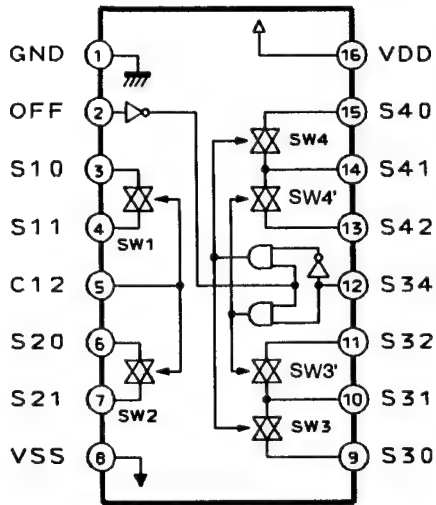
LOW = 0 to 0,8 V (the less positive voltage)

HIGH = 2V to 5,5 V (the more positive voltage)

X = don't care

CIRCUIT DESCRIPTION

TC9215P (SELECTOR)



Pin No.	Pin name	Function
1	GND	GND
2	OFF	Switch (3) (4) off input
3	S10	Switch (1) I/O
4	S11	
5	C12	Switch (1) (2) control
6	S20	Switch (2) I/O
7	S21	
8	Vss	Power supply (-)
9	S30	Switch (3) I/O
10	S31	
11	S32	
12	C34	Switch (3) (4) control

13	B42	Switch (4) I/O
14	B41	
15	B40	
16	VDD	Power supply (+)

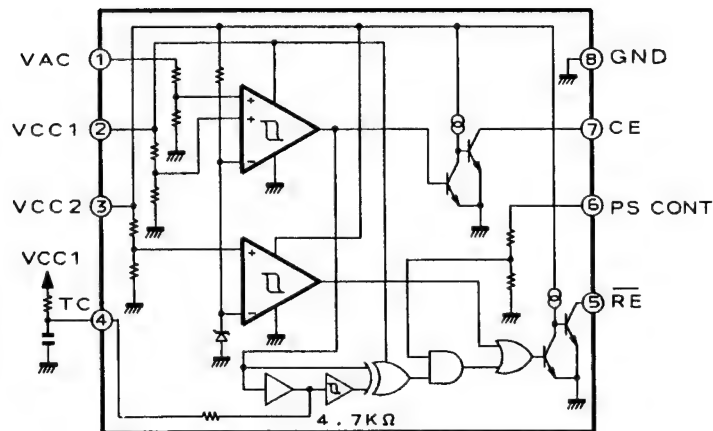
Truth value table

C12	SW1, SW2
H	ON
L	OFF

OFF	C34	B30-B31 B40-B41	B31-B32 B41-B42
L	L	ON	OFF
	H	OFF	ON
H	*	OFF	OFF

(* H or L)

PST620D (RESET IC)



PIN NO.	PIN NAME	FUNCTION
1	V _{AC}	Holds +2.0V detection voltage , conducts rapid power failure detection by monitoring the primary side of the AC power supply (which is the original source of all power) and the stabilizing power supply.
2	V _{CC1}	+5V main power supply
3	V _{CC2}	Backup power supply (connected to backup condensor)
4	T C	Pulse sharper pulse width setting pin (connect to condensor and resistor)
5	RE	Reset output
6	PS CONT	Pulse sharper output ON-OFF switch Hi: OFF Lo: ON
7	CE	Chip enable signal output
8	GND	GND (earth)

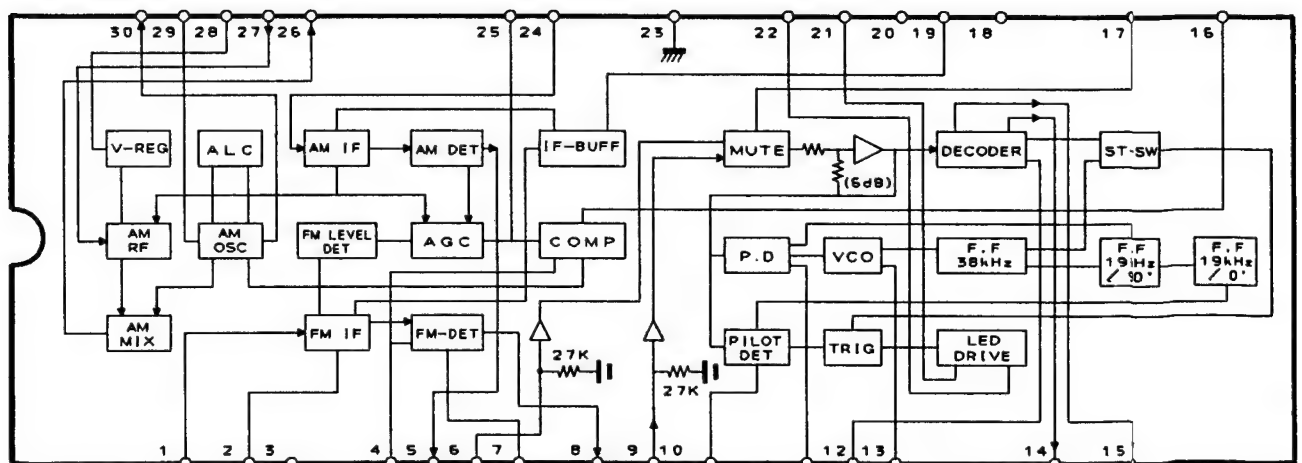
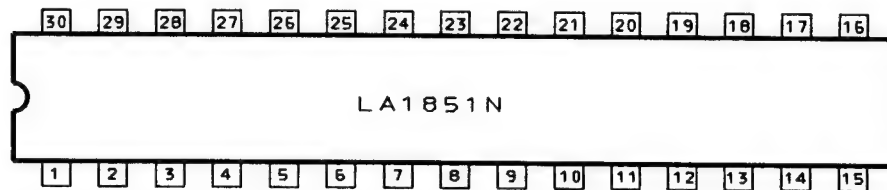
CIRCUIT DESCRIPTION

FM, AM, MPX system IC: LA1851N

- Function
- FM: IF amplifier, Quadrant latch detector, IF count buffer, S meter output, Tu indicator (variable sensitivity)
 - AM: RF amplifier, mixer, oscillator, oscillator buffer, IF amplifier, detector, AGC, IF count buffer, Tu indicator (variable sensitivity)
 - MPX: PLL decoder, ST indicator, VCO stop mute, separation control, VCO nonadjust, forced monaural (VCO stop)

Salient features

- FM, AM tuner and MPX in a single chip
- MPX made nonadjusting
- Electronic synchronization compatible IF count buffer output (FM/AM)
- ST separation control
- Forced monaural, VCO stop



CIRCUIT DESCRIPTION

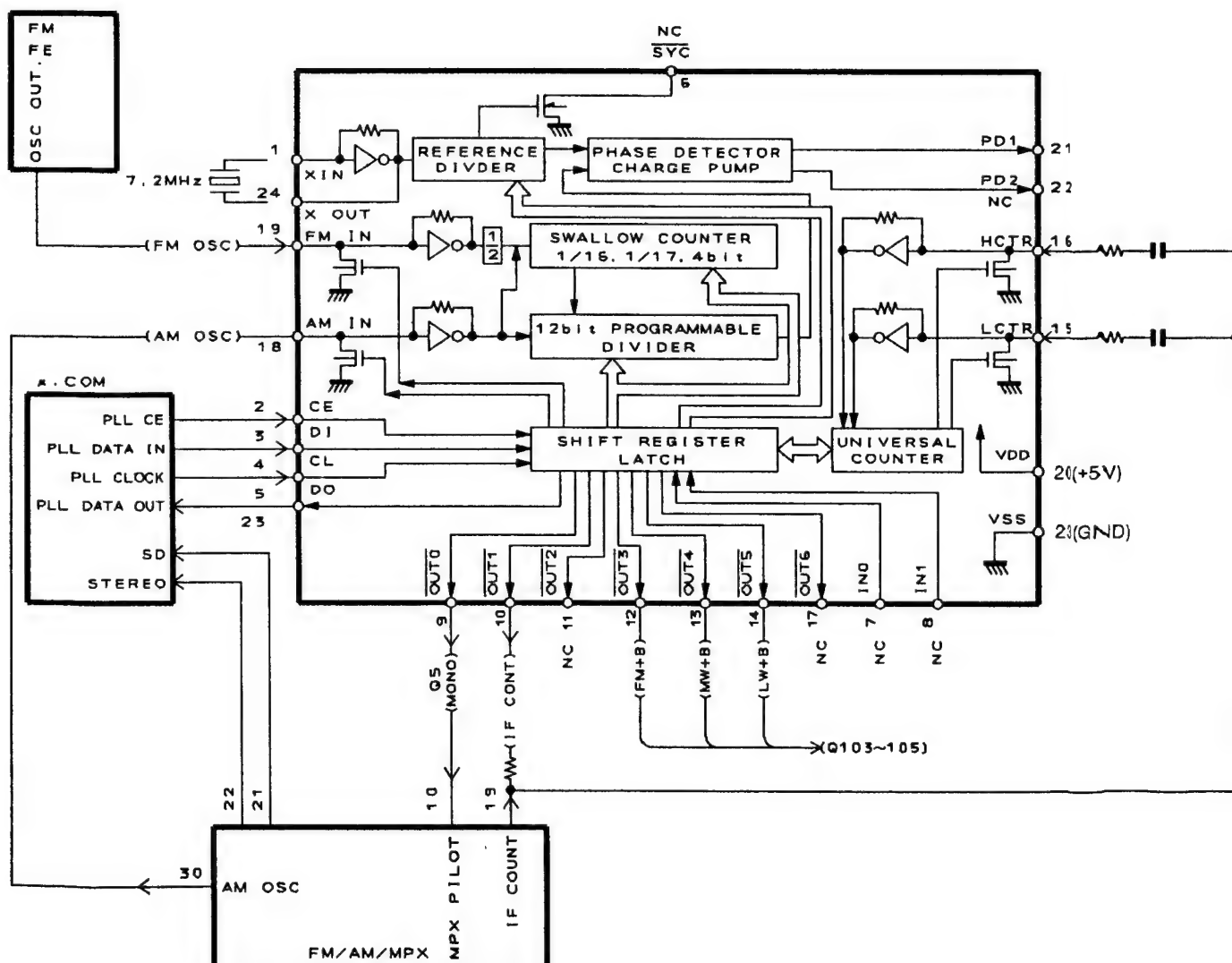
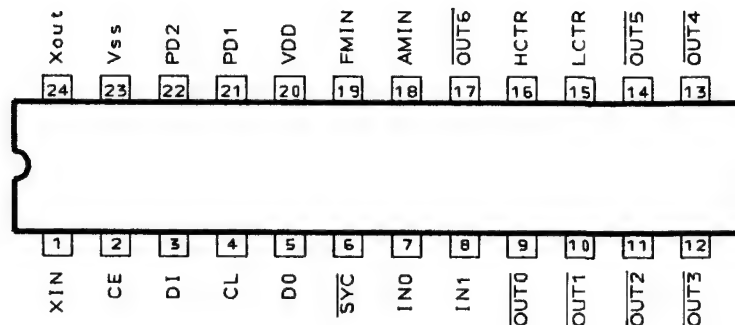
Pin description

Pin No.	Function	Remark
1	FM IF input	Input impedance:330 Ω
2	FM IF bias	—
3	Vcc	—
4	FM AFC output	When FM AFC is detuned,the ST LED goes off and the forced monaural mode is set
5	AM demodulation output	
6	MPX AM DET input	MPX section,AM demodulation input. Input impedance:27k Ω
7	FM discrimination output	
8	FM demodulation output	Output impedance:5k Ω
9	MPX FM DET input	MPX selection. FM demodulation input. Input impedance
10	MPX Pilot synchronism detection filter	MPX VCO stops by shorting the voltage at pin 10 to the VCC line at pin 3. A 3.3 k Ω current limiting resistor is required.
11	MPX PLL loop filter	—
12	MPX separation control	—
13	MPX VCO	Ceramic oscillator
14	MPX L-ch output	—
15	MPX R-ch output	—
16	AM SD ADJ	—
17	MPX AF muting drive	V _{HI} ($\geq 1.5V$) : Mute ON V _{LO} ($< 1.5V$) : Mute OFF
18	AM/FM change	V _{HI} ($\geq 1.5V$) : FM V _{LO} ($< 1.5V$) : AM
19	AM/FM IF count output SW combined use	V _{HI} ($\geq 1.5V$) : IF CNT ON V _{LO} ($< 1.5V$) : IF CNT OFF
20	TU/ST LED	V _{HI} ($\geq 1.5V$):LED forced off (Forced monaural mode) V _{LO} ($< 1.5V$):Normal
21	AM/FM TU LED	—
22	MPX ST LED	—
23	AM/FM MPX GND	—
24	AM IF input	Input impedance:2k Ω
25	AM AGC output FM S meter output	—
26	AM MIXER output	—
27	AM RF input	—
28	V Reg	V _{reg} =2.3V
29	AM OSC	—
30	AM OSC buffer output FM SD ADJ combined use	—

UD-300

CIRCUIT DESCRIPTION

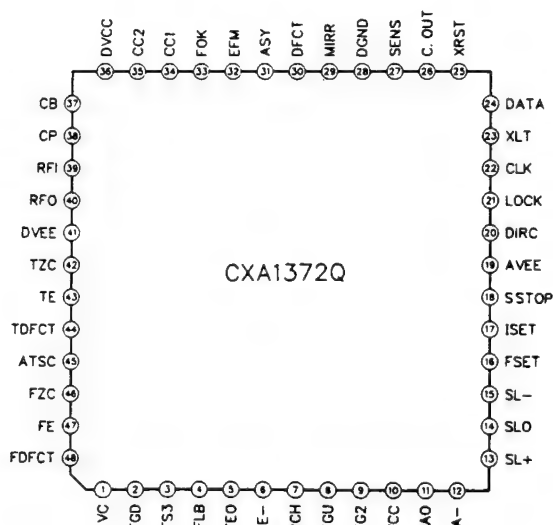
PLL IC: LC7218



Pin connections

CXA1372Q is a bipolar IC developed to be used for processing of the RF signal (Focus OK, mirror, defect, comparator of EFM) and servo control.

- Auto asymmetry control
- Focus OK detection circuit
- Mirror detection circuit
- Defect detection and countermeasure circuit
- EFM comparator
- Focus servo control
- Tracking servo control
- Thread servo control



CIRCUIT DESCRIPTION

Pin functions

Pin No.	Pin name	I/O	Function
1	VC	I	Middle-point voltage input terminal. When two power sources are used : GND, when single power source is used : (Vcc+GND)/2.
2	FGD	I	When lowering the high-band gain of the focus servo, insert a capacitor between this terminal and terminal No. 3.
3	FS3	I	Change the high-band gain of the focus servo by turning FS3 on and off.
4	FLB	I	Outside terminal of time constant for raising the low-band of the focus servo.
5	FEO	O	Focus drive output.
6	FE-	I	Inverted input terminal of focus amplifier.
7	SRCH	I	Outside terminal of time constant for making focus search waveform.
8	TGU	I	Outside terminal of time constant for changing high-band gain of tracking.
9	TG2	I	Outside terminal of time constant for changing high-band gain of tracking.
10	AVCC		
11	TAO	O	Tracking drive output.
12	TA-	I	Inverted input terminal of tracking amplifier.
13	SL+	I	Non-inverted input terminal of thread amplifier.
14	SLO	O	Thread drive output.
15	SL-	I	Inverted input terminal of thread amplifier.
16	FSET	I	Terminal for setting the peak for phase compensation of focus tracking.
17	ISSET	I	Current for determining the height of the focus search track jump thread kick is applied.
18	SSTOP	I	Terminal for ON/OFF detecting signal of limit switch for detecting the most inside line of disc.
19	AVEE		
20	DIRC	I	Used to jump over one track. 47kΩ pull-up resistor is inserted.
21	LOCK	I	When "L", thread runaway-preventive circuit operates. 47kΩ pull-up resistor is inserted.
22	CLK	I	Clock input for transferring the serial data from CPU (having no pull-up resistors).
23	XLT	I	Latch input from CPU (having no pull-up resistors).
24	DATA	I	Serial data input from CPU (having no pull-up resistors).
25	XRST	I	Reset when reset input terminal is at "L" (having no pull-up resistors).
26	C. OUT	O	Signal output for counting tracks.
27	SENS	O	Outputs FZC, AS, TZC, SSTOP, etc. on receipt of command from CPU.
28	DGND		
29	MIRR	O	Output terminal of MIRR comparator. (DC voltage : Load of 10kΩ connected)
30	DFCT	O	Output terminal of DEFECT comparator. (DC voltage : Load 10kΩ connected)
31	ASY	I	Input terminal of auto asymmetry control.
32	EFM	O	Output terminal of EFM comparator. (DC voltage : Load of 10kΩ connected)
33	FOK	O	Output terminal of focus OK comparator. (DC voltage : Load of 10kΩ connected)
34	CC1	I	DEFECT bottom hold output terminal.
35	CC2	O	Terminal in which DEFECT bottom hold output is input after capacitive coupling.
36	DVCC		
37	CB	I	Terminal to which DEFECT bottom hold capacitor is connected.
38	CP	I	Terminal for connecting MIRR hold comparator. Non-inverted input terminal of MIRR comparator.
39	RFI	I	Terminal in which output of RF summing amplifier is input after capacitive coupling.
40	RFO	O	Output terminal of RF summing amplifier. Check point of eye pattern.
41	DVEE		
42	TZC	I	Input terminal of tracking zero cross comparator.
43	TE	I	Input terminal of tracking error.
44	TDFCT	I	Terminal for connecting the capacitor for time constant in case of defect.
45	ATSC	I	Input terminal of window comparator for detecting ATSC.
46	FZC	I	Terminal for inputting the focus zero cross comparator.
47	FE	I	Input terminal of focus error.
48	FDFCT	I	Terminal for connecting capacitor for time constant in case of defect.

CIRCUIT DESCRIPTION

Digital Signal Processor : CXD2500AQ (IC6)

Outline

The CXD2500AQ is a digital signal processing LSI for a compact disc player, which has the following functions.

- A wide frame jitter margin realized by 32-KRAM (± 28 frames)
- Bit clocks for strobing EFM signal are generated by the digital PLL, and the capture range is $\pm 150\text{kHz}$ minimum
- Demodulation of EFM data
- Protection and reinforcement of EFM frame sync signal
- Strong error correction by refined super strategy. C1 : Double correction, C2 : Quadruple correction
- Double-speed replay and variable pitch replay
- Reduction of noise generation at track jumps
- Auto zero cross muting
- Demodulation of sub-code and detection of errors in sub-code Q data

- Digital spindle servo (Having over-sampling filter)
- 16-bit traverse counter
- CPU interface by serial bus
- A built-in servo auto sequencer
- Output for digital audio interface
- Built-in digital level meter and peak meter
- Applicable to bilingual system

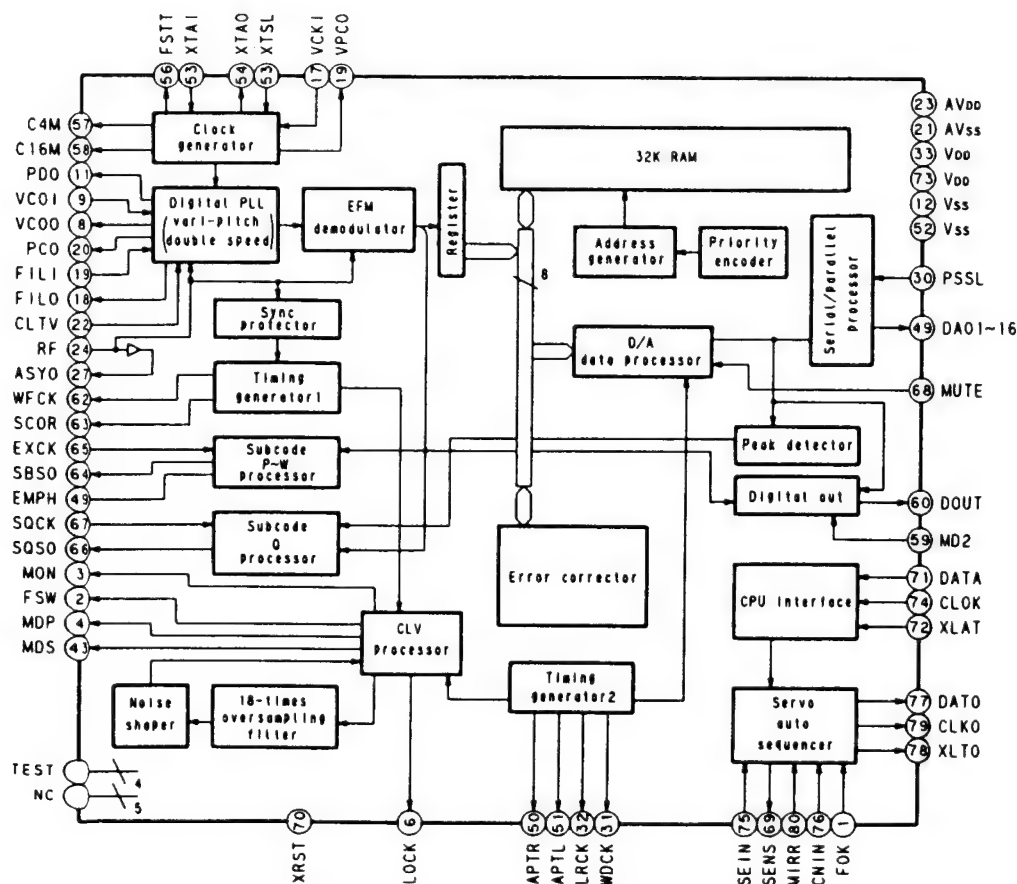
Features

- One chip of this LSI can process all the digital signals used for replay
- Integration level can be heightened because of the built-in RAM

Structure

Silicon gate CMOS

Block diagram



CIRCUIT DESCRIPTION

Pin functions

Pin No.	Pin name	I/O	Function
1	FOK	I	Focus OK input terminal. Used for SENS output and servo auto sequencer.
2	FSW	O	Output for changing output filter of spindle motor.
3	MON	O	ON/OFF control output of spindle motor.
4	MDP	O	Servo control of spindle motor.
5	MDS	O	Servo control of spindle motor.
6	LOCK	O	Outputs "H", when GFS is sampled at 460Hz and it is "H". Output "L", if "L" is detected eight times continuously.
7	NC	-	Not used.
8	VCOO	O	Oscillation circuit output for analog EFM PLL.
9	VCOI	I	Oscillation circuit input for analog EFM PLL. $f_{lock} = 8.6436\text{MHz}$
10	TEST	I	Test terminal, normally grounded.
11	PDO	O	Charge pump output for analog EFM PLL.
12	Vss	-	GND.
13~15	NC	-	Not used.
16	VPCO	O	PLL charge pump output for variable pitch.
17	VCKI	I	Clock input $f_{center} = 16.9344\text{MHz}$ from outside VCO for variable pitch.
18	FILO	O	Filter output for master PLL (Slave = Digital PLL).
19	FILI	I	Filter input for master PLL.
20	PCO	O	Charge pump output for master PLL.
21	AVss	-	Analog GND.
22	CLTV	I	VCO control voltage input for master.
23	AVdd	-	Analog power source (+5V).
24	RF	I	EFM signal input.
25	TEST2	I	Used for grounding.
26	TEST3	I	Used for grounding.
27	ASYO	O	EFM full swing output ("L" = Vss, "H" = Vdd).
28	TEST4	I	Used for grounding.
29	NC	-	Not used.
30	PSSL	I	Audio data output mode changing input. Set to "L" for serial output and "H" for parallel output.
31	WDCK	O	D/A interface for 48-bit slot. Word clock $f = 2 F_s$
32	LRCK	O	D/A interface for 48-bit slot. LR clock $f = F_s$
33	Vdd	-	Source voltage (+5V).
34	DA16	O	Outputs DA16 (MSB) when PSSL = 1. Outputs serial data of 48-bit slot when PSSL = 0. (2s' COMP, MSB first)
35	DA15	O	Outputs DA15 when PSSL = 1. Outputs bit clock of 48-bit slot when PSSL = 0.
36	DA14	O	Outputs DA14 when PSSL = 1. Outputs serial data of 64-bit slot when PSSL = 0. (2s' COMP, LSB first)
37	DA13	O	Outputs DA13 when PSSL = 1. Outputs bit clock of 64-bit slot when PSSL = 0.
38	DA12	O	Outputs DA12 when PSSL = 1. Outputs LR clock of 64-bit slot when PSSL = 0.
39	DA11	O	Outputs DA11 when PSSL = 1. Outputs GTOP when PSSL = 0.
40	DA10	O	Outputs DA10 when PSSL = 1. Outputs XUGF when PSSL = 0.
41	DA09	O	Outputs DA09 when PSSL = 1. Outputs XPLCK when PSSL = 0.
42	DA08	O	Outputs DA08 when PSSL = 1. Outputs GFS when PSSL = 0.
43	DA07	O	Outputs DA07 when PSSL = 1. Outputs RFCK when PSSL = 0.
44	DA06	O	Outputs DA06 when PSSL = 1. Outputs C2P0 when PSSL = 0.
45	DA05	O	Outputs DA05 when PSSL = 1. Outputs XRAOF when PSSL = 0.
46	DA04	O	Outputs DA04 when PSSL = 1. Outputs MNT3 when PSSL = 0.
47	DA03	O	Outputs DA03 when PSSL = 1. Outputs MNT2 when PSSL = 0.
48	DA02	O	Outputs DA02 when PSSL = 1. Outputs MNT1 when PSSL = 0.
49	DA01	O	Outputs DA01 when PSSL = 1. Outputs MNT0 when PSSL = 0.

CIRCUIT DESCRIPTION

Pin No.	Pin name	I/O	Function
50	APTR	O	Control output for correcting aperture. Set to "H" when Rch.
51	APTL	O	Control output for correcting aperture. Set to "H" when Lch.
52	Vss	—	GND.
53	XTAI	I	X'tal oscillation circuit input of 16.9344MHz, or input of 33.8688MHz.
54	XTAO	O	X'tal oscillation circuit output of 16.9344MHz.
55	XTSL	I	X'tal selection input terminal. Set to "L" when x'tal is 16.9344MHz, and to "H" when 33.8688MHz.
56	FSTT	O	2/3 division output of terminals 53 and 54. Does not vary as pitch varies.
57	C4M	O	4.2336MHz output. Varies as pitch varies.
58	C16M	O	16.9344MHz output. Varies as pitch varies.
59	MD2	I	Digital-out ON/OFF control. Turns on when "H", and off when "L".
60	DOUT	O	Digital-out output terminal.
61	EMPH	O	Outputs "H" when playing disc has emphasis, and "L" when the latter does not.
62	WFCK	O	WFCK (Write Frame Clock) output.
63	SCOR	O	Outputs "H" when sub-code sync S0 or S1 is detected.
64	SBSO	O	Serial output of Sub P ~ W.
65	EXCK	I	Clock input for SBSO read out.
66	SQSO	O	Sub Q 80-bit and PCM peak, and level data 16-bit output.
67	SQCK	I	Clock input for SQSO read out.
68	MUTE	I	Mutes when "H", and resets when "L".
69	SENS	—	Outputs SENS to CPU.
70	XRST	I	Resets system when "L".
71	DATA	I	Inputs serial data from CPU.
72	XLAT	I	Latches serial data when latch input from CPU falls.
73	VDD	—	Power supply (+5V).
74	CLOCK	I	Serial data transfer clock input from CPU.
75	SEIN	I	Input SENS from SSP.
76	CNIN	I	Inputs signals for counting number of track jumps.
77	DATO	O	Outputs serial data to SSP.
78	XLTO	O	Outputs serial data latch to SSP, and latches at fall.
79	CLKO	O	Outputs serial data transfer clock to SSP.
80	MIRR	I	Inputs mirror signal. Auto sequencer uses this for jumping 128 or more tracks.

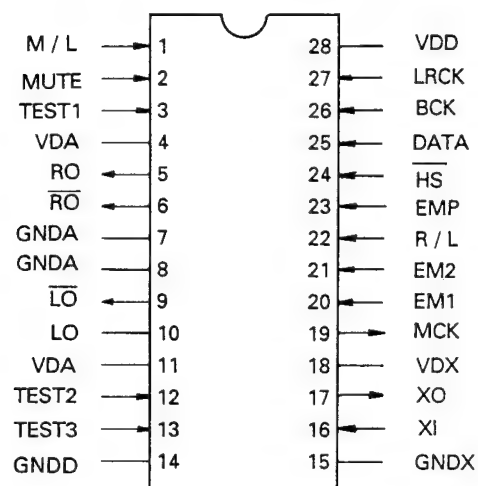
Notes

- The 64-bit slot is 2's compliment output of LSB first, and the 48-bit slot is 2's compliment output of MSB first.
- GTP is used to monitor the protective condition of the frame sync. ("H" : Sync protective window is released.)
- XUGF is the frame sync obtained from the EFM signal, which is a negative pulse. This is the signal before the protection of sync.
- XPLCK is the inverted clock of EFM PLL. PLL is so made that the falling edge will be matched to the change point of the EFM signal.
- The GFS becomes "H" when the frame sync is matched to the internal protection timing.
- RFCK is a signal having the period of 136μ obtained by the accuracy of X'tal.
- C2P0 is a signal indicating the error condition of data.
- XRAOF is a signal generated when 32 KRAM exceeds the jitter margin of ±28F.

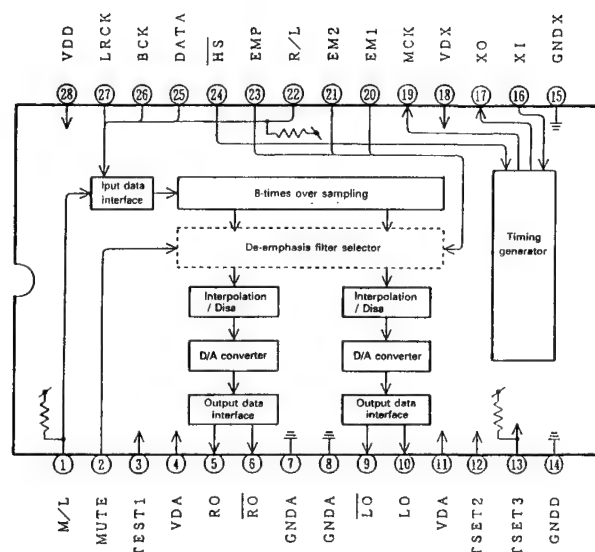
CIRCUIT DESCRIPTION

Converter with Digital Filter : TC9237N (IC7)

Terminal connection diagram



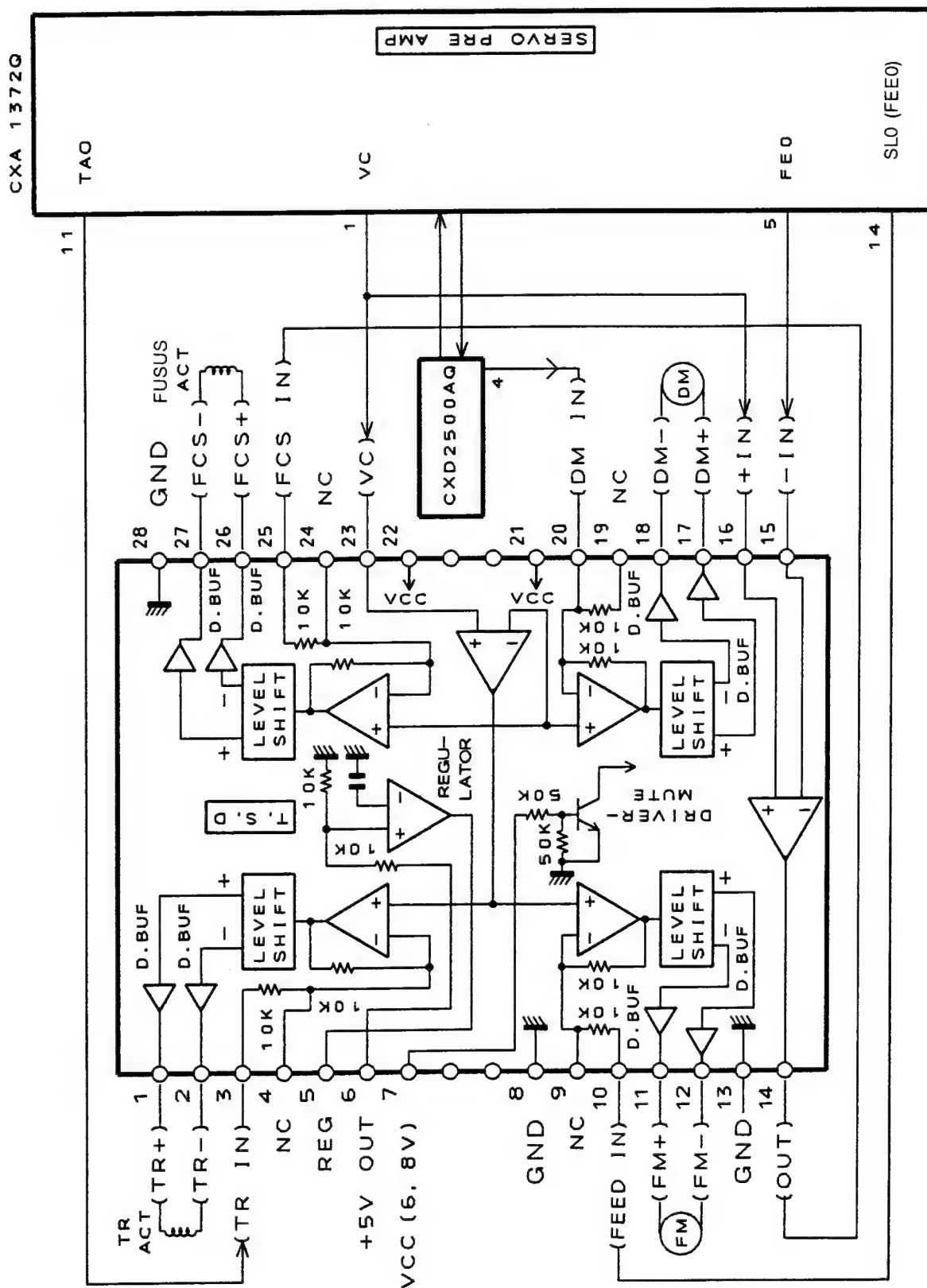
Block diagram



Explanation of terminals

Pin No.	Pin name	I/O	Function
1	M/L	I	Selection of MSB first or LSB first. H = MSB, L = LSB.
2	MUTE	I	Muting control. H = Mute ON
3	TEST1	I	Test terminal (connect to H level).
4	VDA	-	Power supply for analog circuit (R-ch).
5	RO	O	R-ch data output.
6	RO	O	Inverted R-ch output.
7	GNDA	-	Ground for analog circuit (R-ch).
8	GNDA	-	Ground for analog circuit (L-ch).
9	LO	O	Inverted L-ch data output.
10	LO	O	L-ch data output.
11	VDA	-	Power supply for analog circuit (L-ch).
12	TEST2	I	Test terminal (connect to L level).
13	TEST3	I	Test terminal (connect to H level or open circuit).
14	GND	-	Ground for logic.
15	GNDX	-	Ground for oscillation.
16	XI	I	Generation of clock freq (384fs).
17	XO	O	Generation of clock freq (384fs).
18	VDX	-	Power supply for oscillation.
19	MCK	O	Clock output of system (384fs).
20, 21	EM1, 2	I	De-emphasis filter selector.
22	R/L	I	R / L-ch data selector.
23	EMP	I	De-emphasis filter ON / OFF selector (H = ON, L = OFF).
24	HS	I	Normal or Double speed selector (H = Normal, L = Double).
25	DATA	I	Data input.
26	BCK	I	Bit clock input.
27	LRCK	I	LR clock input.
28	VDD	-	Power supply for logic.

BA6296FP is 4ch BTL driver to drive the actuator and motor of CD player.

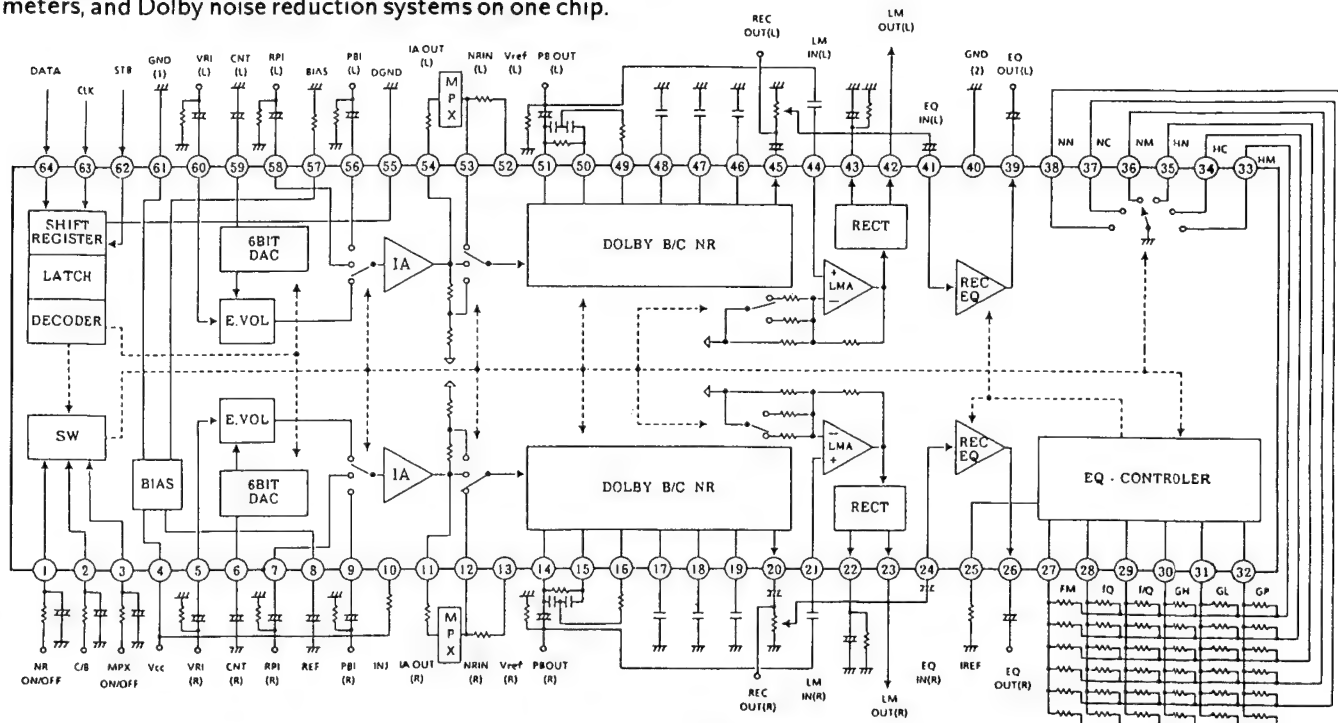


UD-300

CIRCUIT DESCRIPTION

Audio Signal Processing System IC for Cassette Deck (HA12157NT)

The HA12157NT is an audio signal processing LSI chip integrates potentiometers, recording equalizers, level meters, and Dolby noise reduction systems on one chip.



Pin No.	Name	Function
1	NR ON/OFF	Mode Control input
2	C/B	
3	MPX ON/OFF	
4	VCC	Power Supply
5	VRI	Volume input
60		
6	CNT	DAC output Volume control input
59		
7	RPI	Recording input
58		
8	REF	Ripple filter
9	PBI	Playback input
56		
10	INJ	Injection current input for I _L L
11	IA OUT	Input amplifier output
54		
12	NR IN	Noise reduction processor input
53		
13	VREF	Reference voltage buffer output
52		
14	PB OUT	Playback (Decode) output
51		
15	SS1	Spectral skewing amplifier input
50		
16	SS2	Spectral skewing amplifier output
49		
17	CCR	Current controlled resistor output
48		
18	HLS DET	Time constant pin for rectifier
47		
19	LLS DET	
46		

Pin No.	Name	Function
20	REC OUT	Recording (Encode) output
45		
21	LM IN	Level meter input
44		
22	LMD	Time constant pin for level meter
43		
23	LM OUT	Level meter output
42		
24	EQ IN	Equalizer input
41		
25	IREF	EQ reference current input
26	EQ OUT	Equalizer output
39		
27	FM	EQ parameter current input
28	fQ	
29	f/Q	
30	GH	
31	GL	
32	GP	
33	HM	EQ parameter selector
34	HC	
35	HN	
36	NM	
37	NC	
38	NN	
40	GND	Ground
61		
55	D GND	Digital (Logic) ground
57	BIAS	Dolby NR reference current input
62	STB	Mode control input
63	CLK	
64	DATA	

CIRCUIT DESCRIPTION

Operating Mode Control

Electronic switches are used in the HA12157. Noise reduction ON/OFF, C/B, and Multiplex ON/OFF signals controlled by parallel data (DC voltage) and a switch controlled by serial data are provided in the operating mode.

Control Using Parallel Data

Dolby noise reduction and multiplex filter are controlled by the input signal at pins ①, ②, and ③.

Pin No.	Lo	Hi
①	NR-OFF	NR-ON
②	B-NR	C-NR
③	MPX-ON	MPX-OFF

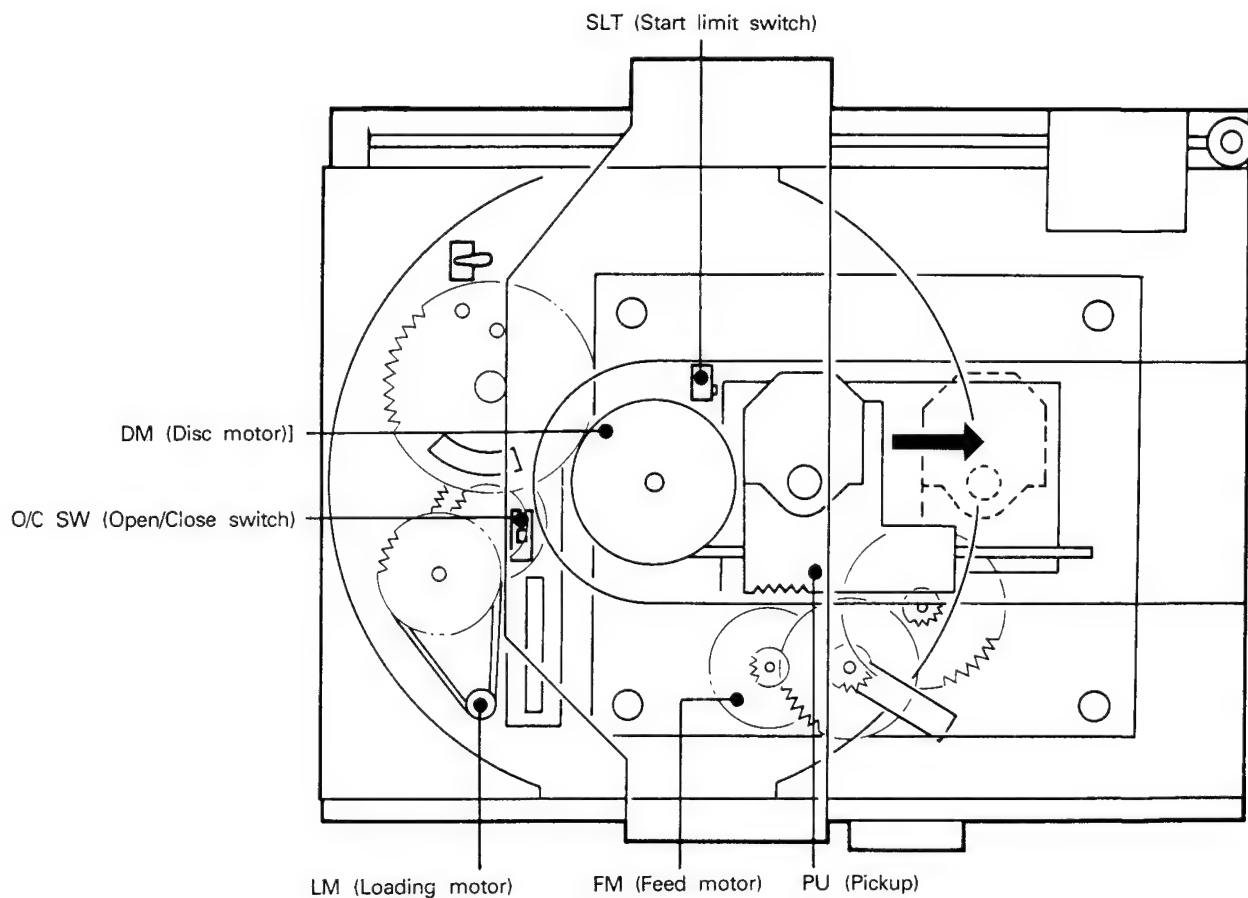
Serial Data Format

An 8-bit shift register is used as the serial data format. The shift register fetches CLK and DATA signals only when the STB signal is high, then latches data at the falling edge of the STB signal.

bit No.		Control register				Volume register								
0	TAPE SELECT 1	H	<div>TS 1</div> <div>TS 2</div>			H	L	DAC 0	<div>bit No.</div> <div>543210</div> <div>Gain</div>					
		L												
1	TAPE SELECT 2	H	H			METAL	NORMAL	DAC 1	L L L L L L					
		L	L			CrO ₂	NORMAL		L L L L L H					
2	TAPE SPEED	H	Twice normal speed selection				DAC 2	L L L L H L						
		L	Normal speed selection					L L L L H H						
3	METER SENSITIVITY	H	Meter sensitivity improved by 20 dB				DAC 3							
		L	Meter sensitivity normal											
4	INPUT SELECT 1	H	<div>IS 1</div> <div>IS 2</div>			H	L	DAC 4	<div>H H H H L H</div> <div>H H H H H L</div> <div>H H H H H H</div>					
		L							<div>Low</div> <div>Mute</div>					
5	INPUT SELECT 2	H	H			PBI	VRI	DAC 5						
		L	L			RPI	VRI							
6	REC/PB	H	Playback mode selection				R/L SELECT	H	R-channel register selection					
		L	Recording mode selection					L	L-channel register selection					
7	REGISTER SELECT	H	Control register selection				REGISTER SELECT	L	Volume register selection					

* Whether to control the condition or volume control is judged by the content of bit 7.

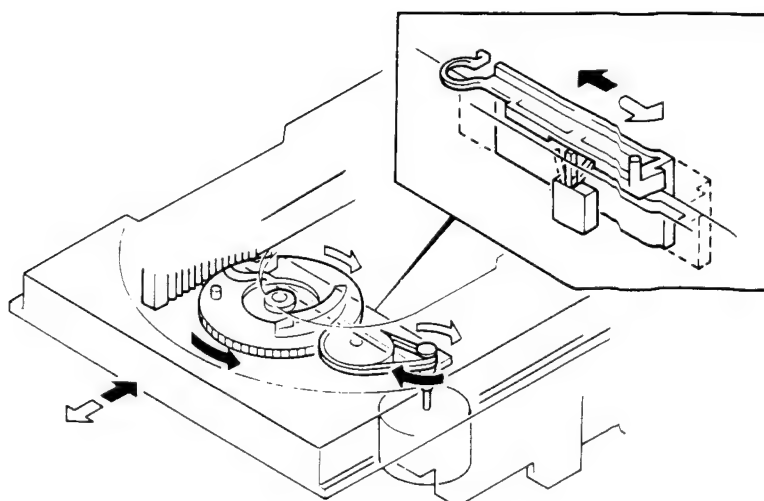
MECHANISM DESCRIPTION



1. OPEN/CLOSE Function

By the rotation of the loading motor, Gear is rotate and the tray starts OPEN/CLOSE operation. The OPEN/CLOSE operation stops when the slide gear travels or open /close switch comes ON.

➡ OPEN
⇨ CLOSE

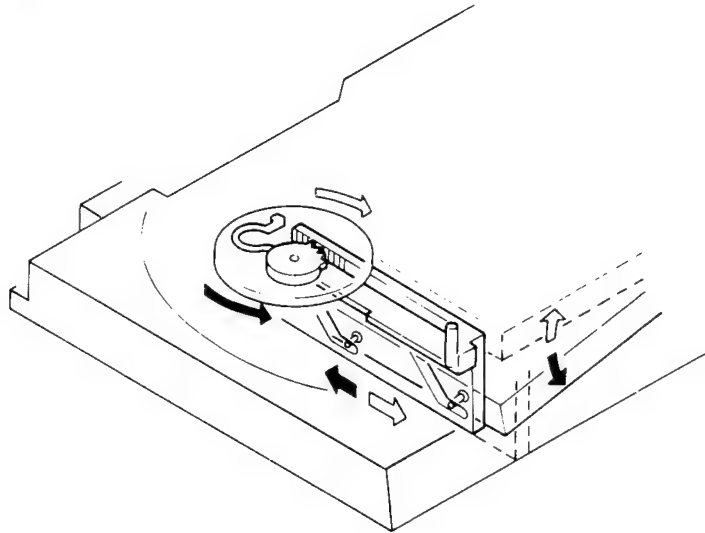


MECHANISM DESCRIPTION

2. Pickup Chassis Traveling

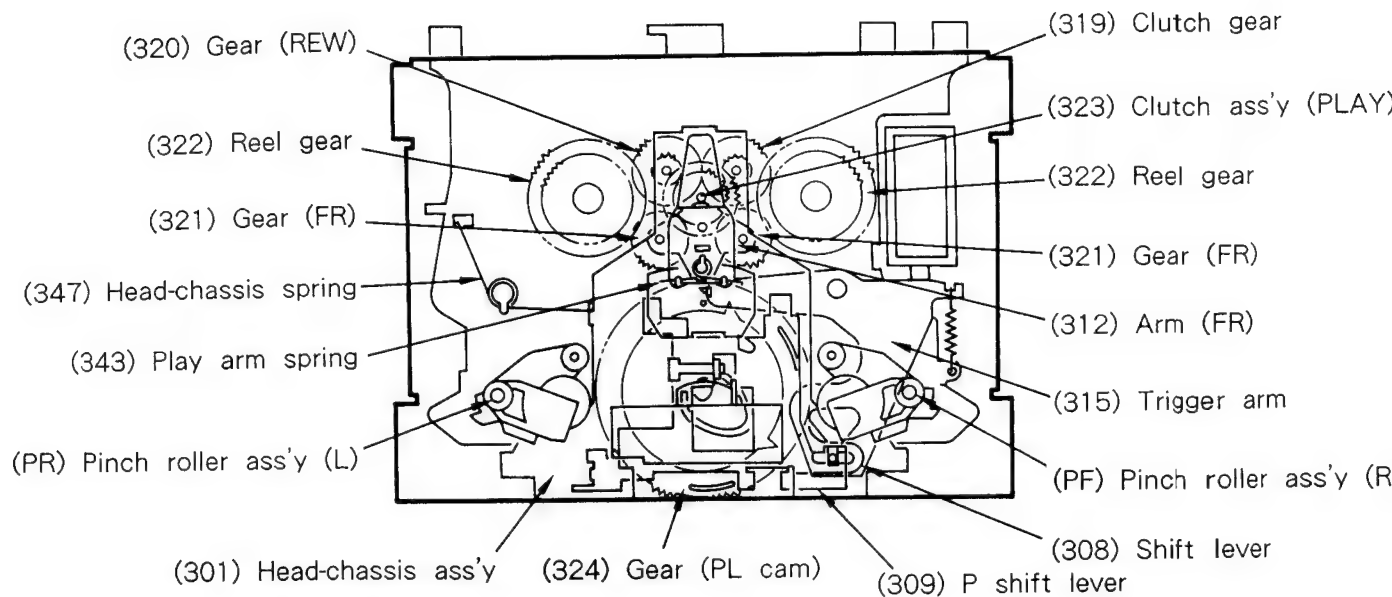
Accompanied with the OPEN/CLOSE operation, the slider-gear moves by rotation of gear.

➡ OPEN
⇌ CLOSE

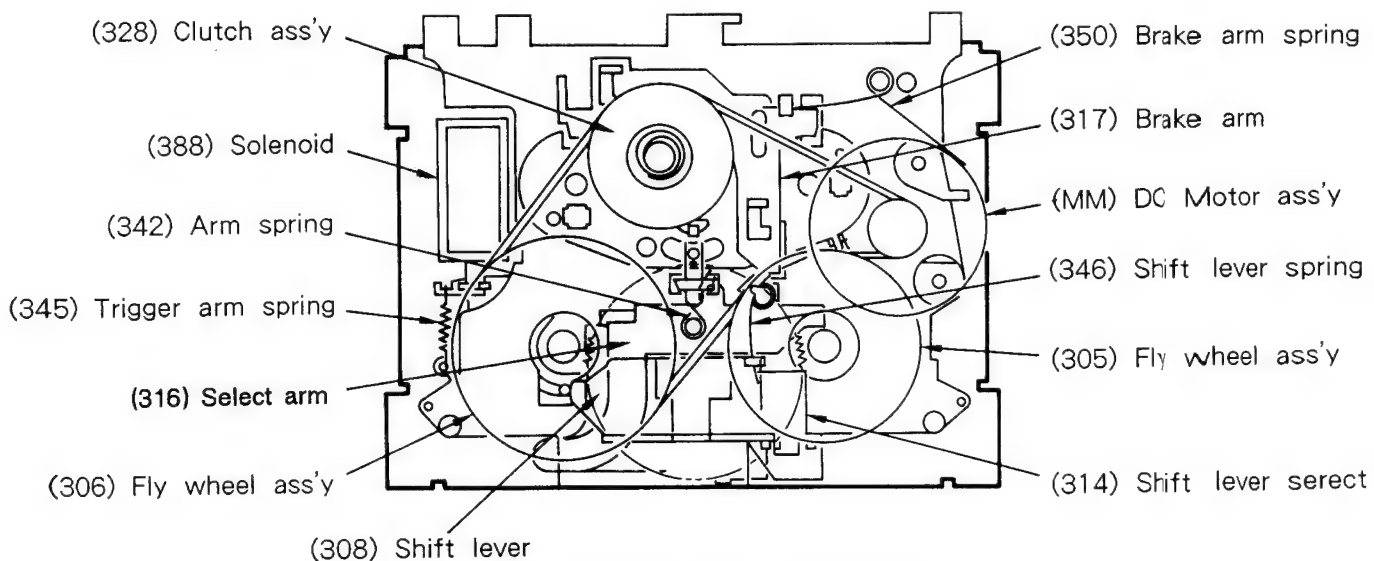


UD-300

MECHANISM DESCRIPTION

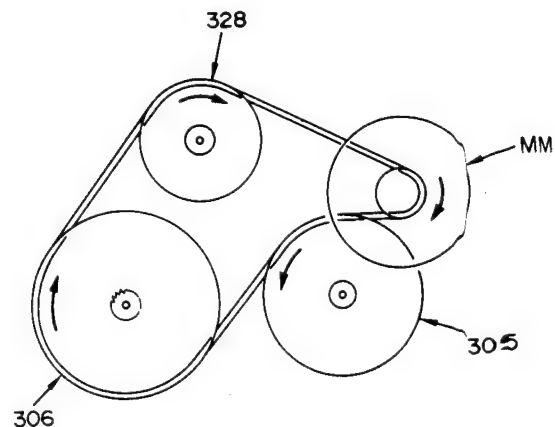


Parts Layout (Front perspective)



Parts Layout (Rear perspective)

Driving power	: 130g-cm more
Take up torque	: 35~75g-cm
FF/REW torque	: 70~160g-cm
Back tension torque	: 1.5~6g-cm



Transmission of Rotation

MECHANISM DESCRIPTION

STOP → FWD PLAY / REC (The head is in the forward – transport position when the drive stops.)

1 Press the key. The CPM starts running.

2 After about 300 ms, the solenoid is energized for 150 ms, and the boss (A) of the trigger arm (315) disengages from the stop lever (B) of the play cam gear (314).

Fig. 1

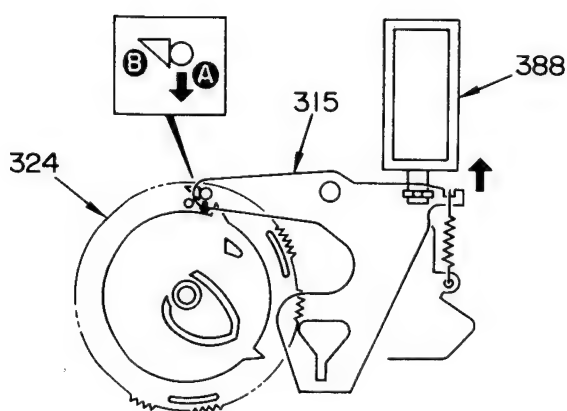


Fig. 1

3 The head chassis assembly (301) is pushed down by the spring (347), so the cam gear (324) rotates slightly, the FW (R) gear engages with the cam gear, and the gears start rotating.

Fig. 2

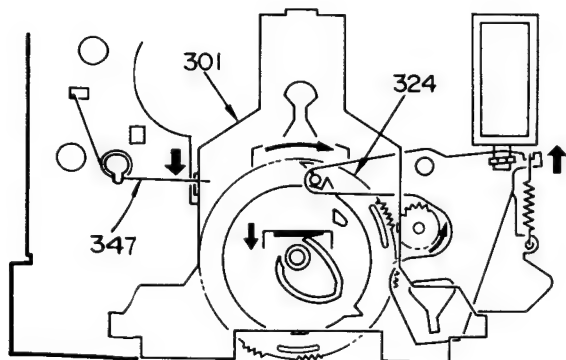


Fig. 2

4 Since the entrance of the inner track of the cam gear (324) passes when the solenoid is energized for 150 ms, the boss (A) of the shift lever selector (314) moves along the outer track, and the P shift lever (309) remains stationary.

Fig. 3

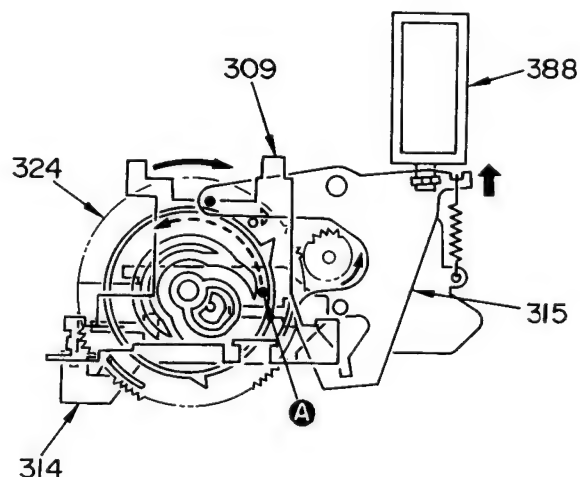


Fig. 3

5 The shift lever is lifted by the cam of the play cam gear, and the head chassis assembly is raised.

Fig. 4

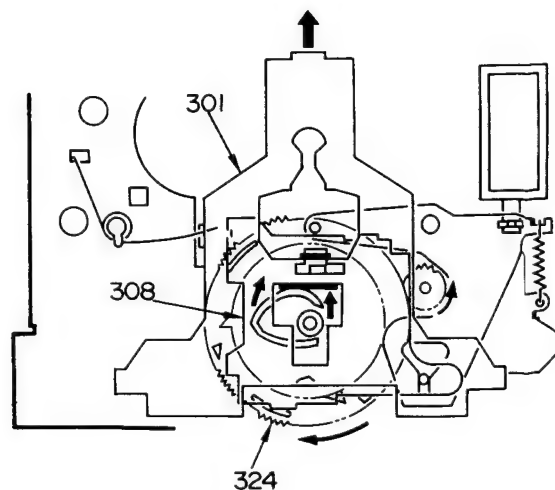


Fig. 4

UD-300

MECHANISM DESCRIPTION

6 The play arm spring is pushed by the projection (A) of the P shift lever (309), the play arm tilts along the inner surface of the head chassis, the clutch gear (323), play clutchgear, and hub engage, and the hub starts rotating.

Fig. 5

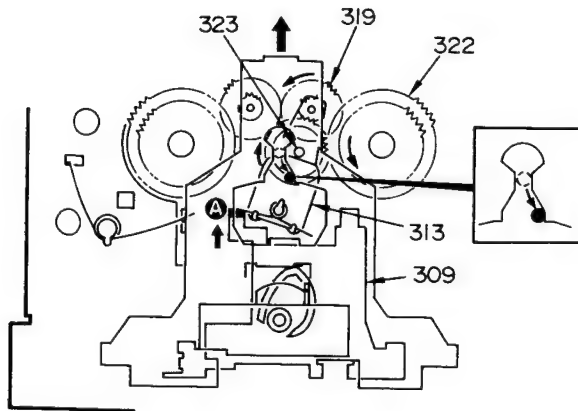


Fig. 5

7 The brake arm (317) is lifted by the bent part (A) of the shift lever (308) to release the brake from the hub.

Fig. 6

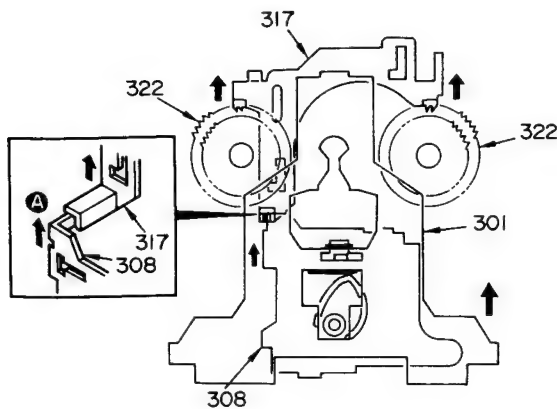


Fig. 6

8 The forward – transport pinch roller (PR) is raised by the bent part (A) of the P shift lever (309), and the pinch roller contacts the capstan.

Fig. 7

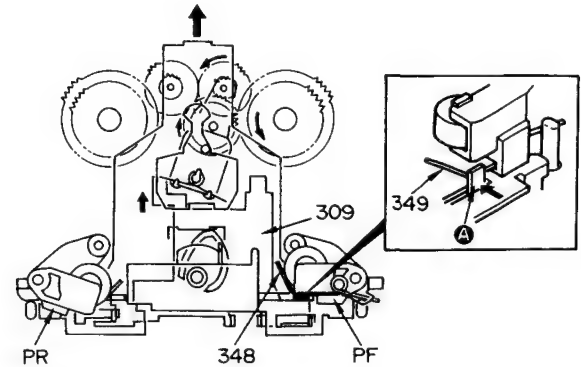


Fig. 7

STOP → RVS PLAY / REC

- 1 Press the key.
- 2 After about 300 ms, the solenoid is energized for 50 ms, then deenergized.
- 3 Since the solenoid is deenergized immediately after the play cam gear starts turning, the boss (A) of the shift lever selector (314), pushed by the trigger arm boss (B), passes along the inner track of the play cam gear, so the play shift lever also moves, and the head is rotated into the reverse – transport position by the return gear.

Fig. 8

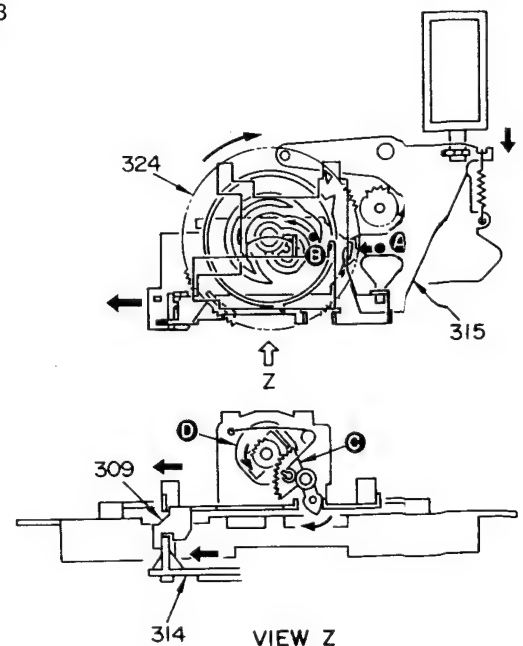


Fig. 8

MECHANISM DESCRIPTION

- 4 The rotating play cam gear lifts the shift lever (308), raising the head chassis assembly.

Fig. 9

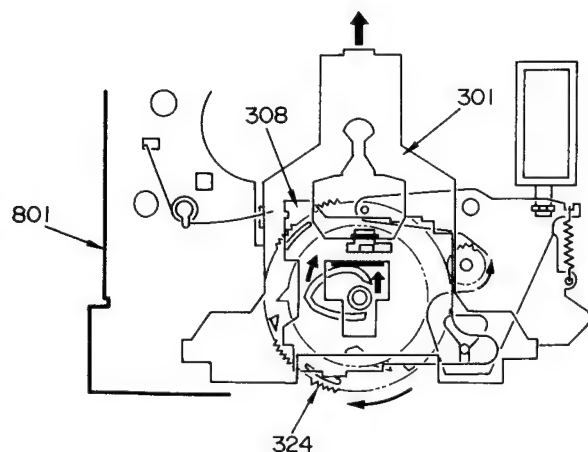


Fig. 9

- 5 The play arm spring pushed by the projection (A) of the P shift lever (309), the play arm tilts along the inner surface of the head chassis, the REW gear (320), play clutch gear, and hub engage, and the hub starts rotating.

Fig. 10

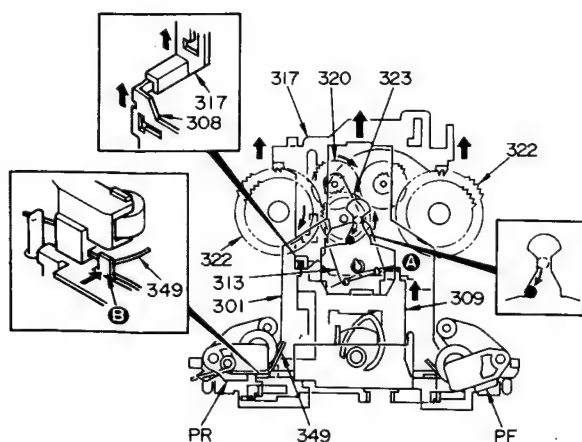


Fig. 10

- 6 The brake arm (317) is lifted by the shift lever to release the brake from the hub.
- 7 The spring of the reverse – transport pinch roller (PR) is lifted by the bent part (B) of the P shift lever (309), and the pinch roller contacts the capstan.

STOP → FF

- 1 Press the ►► key.
- 2 After 300 ms, the solenoid is energized for 300 ms, the selector arm (316) is held by the concave part of the trigger arm (315), and the head chassis assembly starts rising.

Fig. 11

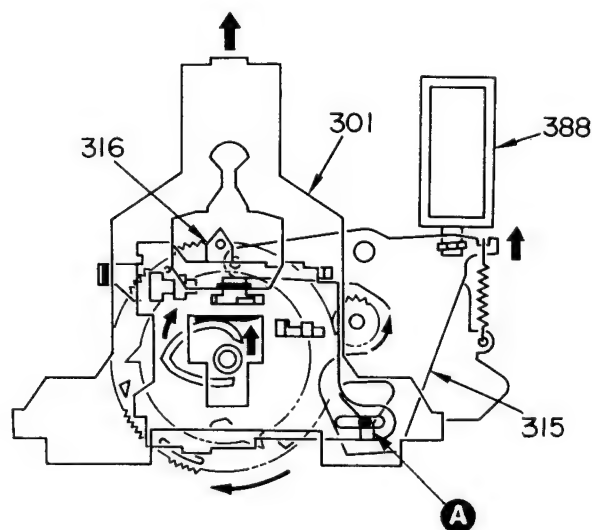


Fig. 11

- 3 The boss (A) of the selector arm (316) enters the holder on the mechanism base, and is lifted further.

Fig. 12

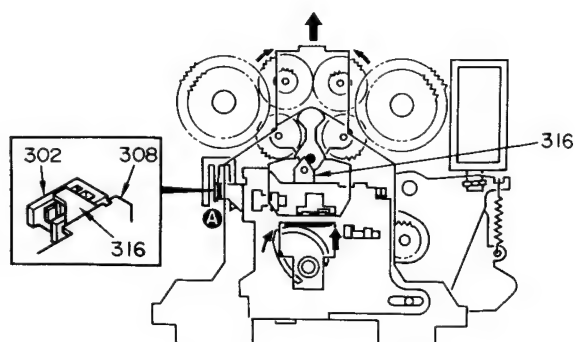


Fig. 12

MECHANISM DESCRIPTION

- 4 The projection of the selector arm touches the boss (A) of the FR arm (312), the selector arm rises and tilts, the FR gear (321), clutch gear, and hub gear engage, and the forward – transport take – up hub starts rotating.

Fig. 13

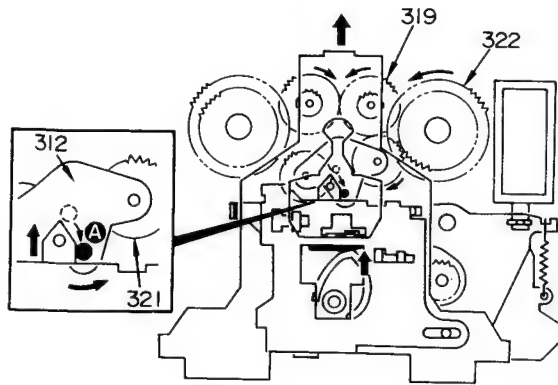


Fig. 13

- 5 When the shift lever is raised to its limit by the play cam gear cam, the selector arm hole and head chassis assembly boss (A) are positioned as shown in the figure below. The pinch roller does not touch the capstan, and fast – forwarding takes place.

Fig. 14

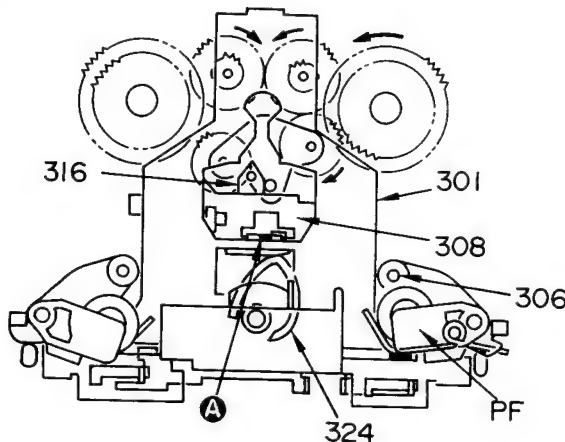


Fig. 14

STOP → RWD

- 1 Press the ◀◀ key.
- 2 After 300 ms, the solenoid is energized for 450 ms, the select arm (316) is held by the concave part of the trigger arm, and the head chassis assembly starts rising.
- 3 Since the selector arm is held, the projection touches the FR arm boss, the FR arm tilts, the FR gear (321), REW gear, and hub gear engage, and the RWD hub starts rotating.

Fig. 15

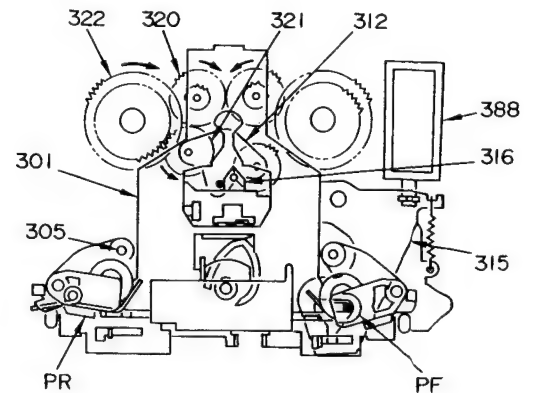


Fig. 15

- 4 The pinch roller does not touch the capstan, as in the fast forward operation, and rewinding takes place.

F PLAY → CUE / RWD

- 1 The solenoid is energized for 50 ms during forward play to stop operation.
- 2 The solenoid is energized for 300 ms to fast – forward (CUE).
The solenoid is energized for 50 ms to rewind (RWD).

R. PLAY → RWD

- 1 The solenoid is energized for 50 ms during reverse play to stop operation.
- 2 The solenoid is energized for 50 ms to rotate the head into the reverse – transport position.
- 3 The solenoid is deenergized for 100 ms, then reenergized for 150 ms to fast – forward.

RVS PLAY → CUE

- 1 The solenoid is energized for 50 ms during reverse play to stop operation.
- 2 The solenoid is energized for 50 ms to rotate the head into the reverse – transport position.
- 3 The solenoid is deenergized for 100 ms, then reenergized for 300 ms to rewind.

MECHANISM DESCRIPTION

Assembly procedure

- 1 Install the brake arm and its spring the clutch arm spring, and the shift lever selector , and its spring on the mechanism chassis.

Fig. 1

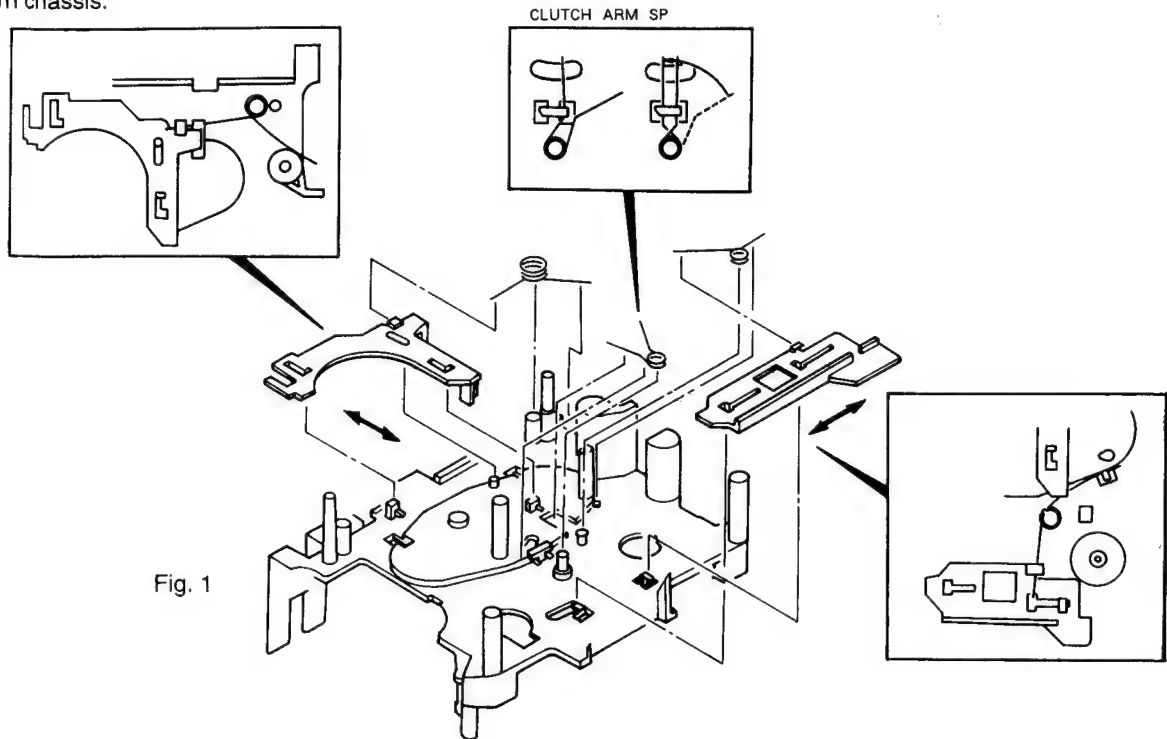
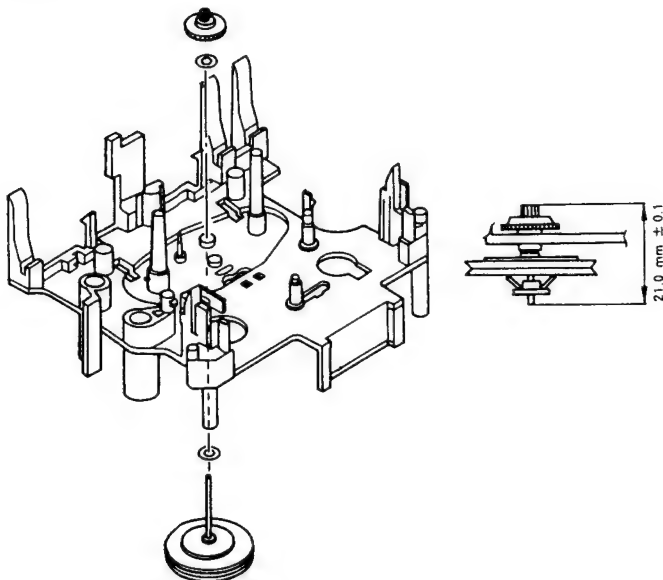


Fig. 1

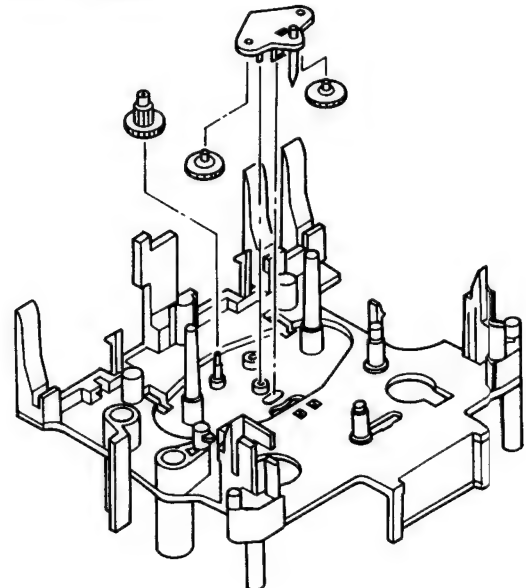
- 2 Install the clutch assembly on the mechanism chassis.

Fig. 2



- 3 Install the FR arm, FR gear, and REW gear on the mechanism chassis.

Fig. 3



UD-300

MECHANISM DESCRIPTION

4 Install the hub assemblies (left and right).

Fig. 4

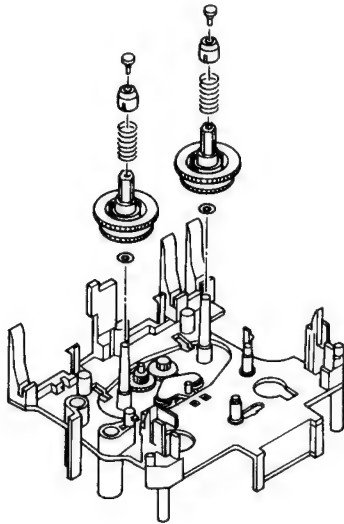


Fig. 4

5 Install the play cam gear and the trigger arm and its spring on the mechanism chassis.

Fig. 5

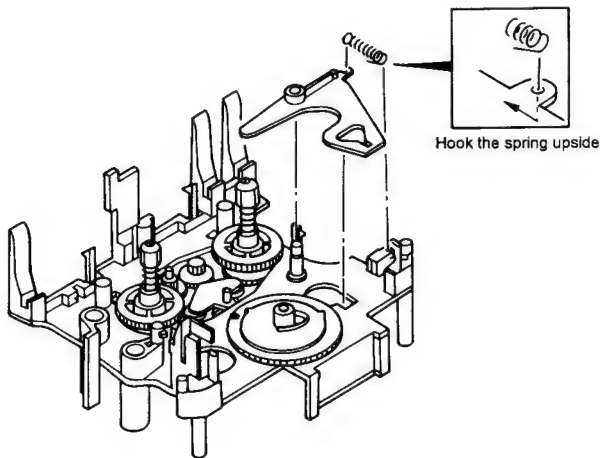


Fig. 5

6 Install the shift assembly and its spring on the chassis.

Fig. 6

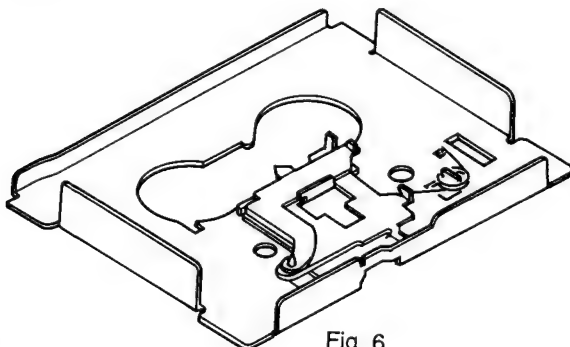


Fig. 6

7 Install the chassis on the mechanism chassis.

Fig. 7

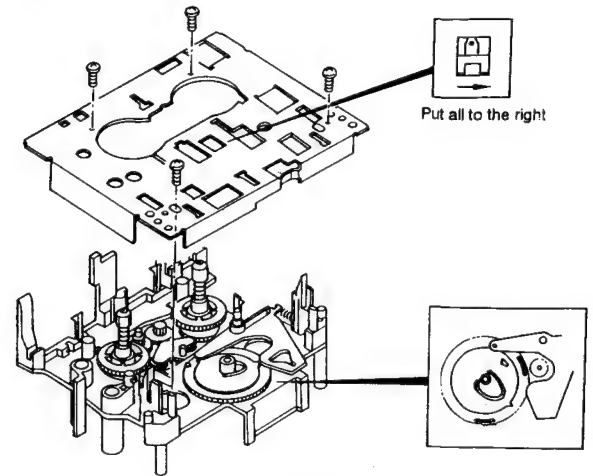


Fig. 7

8 Install the housings (left and right) on the chassis.

Fig. 8

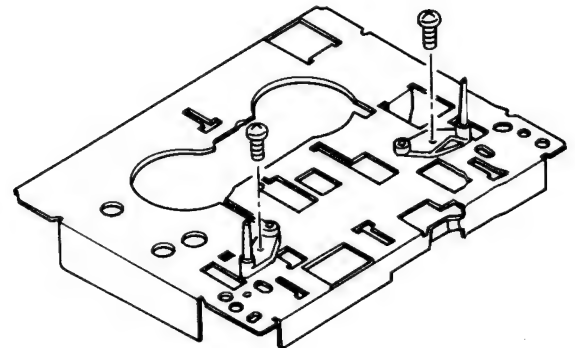


Fig. 8

9 Install the solenoid on the mechanism chassis.

Fig. 9

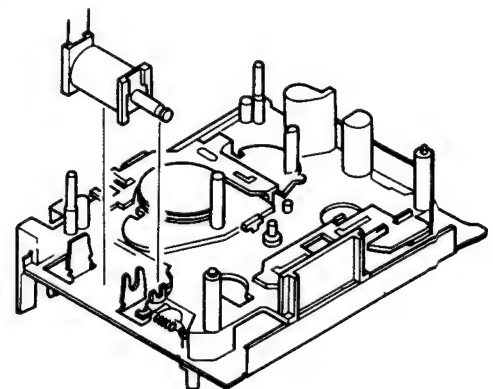


Fig. 9

10 Install the flywheels (left and right).

MECHANISM DESCRIPTION

11 Install the play arm, play clutch assembly, and the head chassis and its spring on the chassis, and install the cassette guide.

Fig. 10

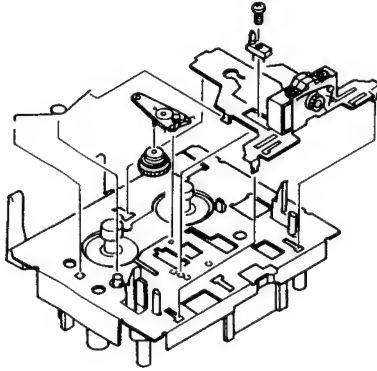


Fig. 10

12 Install the pinch rollers (left and right).

Fig. 11

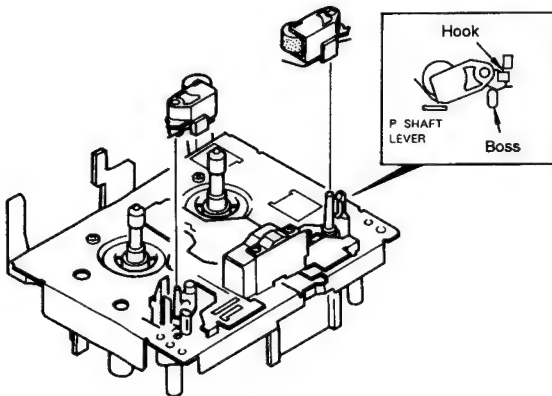


Fig. 11

13 Install the interlock and its spring.

Fig. 12

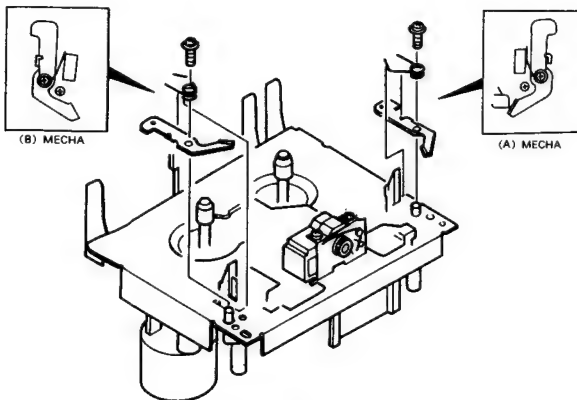


Fig. 12

14 Install the belt temporarily

Fig. 13

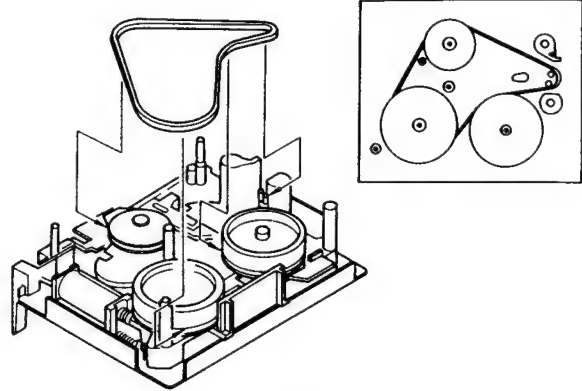


Fig. 13

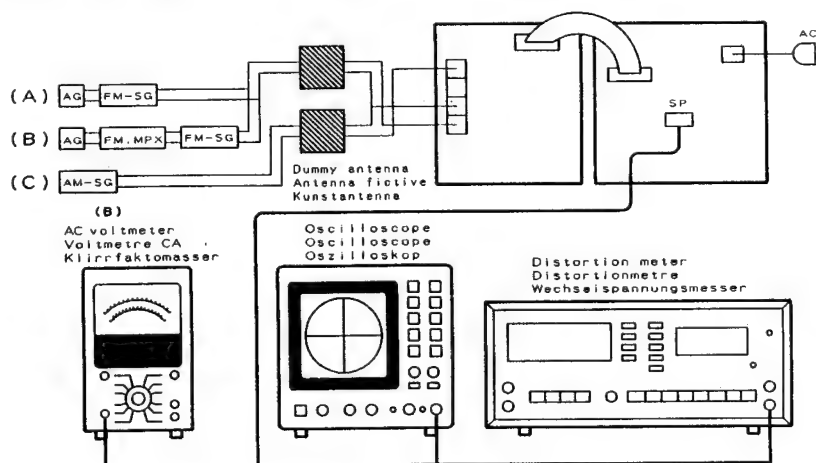
15 Install the PCB.

16 Install the CPM and belt.

ADJUSTMENT

X-A3 . A3L

No	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION		SELECTOR:FM					
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, ± 75 kHz dev (M,X type) 1kHz, ± 40 kHz dev (E,T type) 60dB μ (ANT input)	Connect a DC voltmeter between TP3 and TP4. (X05-)	MONO 98.0MHz	L3	0V	(a)
2	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, ± 68.25 kHz dev Pilot: ± 7.5 kHz dev (M,X type) 1kHz, ± 40 kHz dev Pilot: ± 6 kHz dev (E,T type) 60dB μ (ANT input)	(B) or P58 (1-3)	AUTO 98.0MHz	L1 IFT (W02-)	Minimum distortion	
3	SEPARATION (E,T type only)	(C) 98.0MHz 1kHz, ± 40 kHz dev Pilot ± 6 kHz dev Selector: L or R 60dB μ (ANT input)	(B) or P58 (1-3)	AUTO 98.0MHz	VR3 (X05-)	Minimum crosstalk	
4	TUNING LEVEL	(A) 98.0MHz 1kHz, ± 75 kHz dev (M,X type) 1kHz, ± 45 kHz dev (E,T type) 14dB μ (ANT input) 75 Ω 18dB μ (ANT input) 300 Ω	(B) or P58 (1-3)	AUTO or MONO 98.0MHz	VR1 (X05-)	Adjust VR1 and stop at the point where ED1(TUNED) goes on.	
AM(MW) SECTION		SELECTOR:AM(MW)					
(1)	TUNING LEVEL	(D) 990kHz 400Hz, 30% mod 26dB μ (ANT input)	(B) or P58 (1-3)	990kHz	(X05-) VR2	Adjust VR2 and stop at the point where ED1(TUNED) goes on.	



REGLAGE

X-A3 . A3L

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINTS DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION FM		SELECTEUR:FM					
1	DISCRIMINATEUR	(A) 98,0MHz 1kHz, ± 75 kHz dV (Type M, X) 1kHz, ± 40 kHz dV (Type E, T) 60dB μ (Entrée ANT)	Connecter un voltmètre CC entre TP3 et TP4. (X05-)	MONO 98,0MHz	L3	0V	(a)
2	DISTORSION (STEREO)	(C) 98,0MHz 1kHz, $\pm 68,25$ kHz dV Pilote: $\pm 7,5$ kHz dV (Type M, X) 1kHz, ± 40 kHz dV Pilote: ± 6 kHz dV (Type E, T) 60dB μ (Entrée ANT)	(B) où P58 (1-3)	AUTO 98,0MHz	L1 IFT (W02-)	Distorsion minimum	
3	SEPARATION (Type E, T seulement)	(C) 98,0MHz 1kHz, ± 40 kHz dV Pilote: ± 6 kHz dV Sélecteur: G ou D 60dB μ (Entrée ANT)	(B) où P58 (1-3)	AUTO 98,0MHz	VR3 (X05-)	Diaphonie minimum	
4	NIVEAU D'ACCORD	(A) 98,0MHz 1kHz, ± 75 kHz dV (Type M, X) 1kHz, ± 45 kHz dV (Type E, T) 14dB μ (Entrée ANT) 75 Ω 18dB μ (Entrée ANT) 300 Ω	(B) où P58 (1-3)	AUTO ou MONO 98,0MHz	VR1 (X05-)	Régler VR1 et arrêter au point où ED1 (ACCORDE) s'allume.	
SECTION AM(OM)		SELECTEUR:AM(OM)					
(1)	NIVEAU D'ACCORD	(D) 990kHz 400Hz, 30% mod 26dB μ (Entrée ANT)	(B) où P58 (1-3)	990kHz	(X05-) VR2	Ajuster VR2 et arrêter au point où ED1 (ACCORDE) s'allume.	

ABGLEICH

X-A3 . A3L

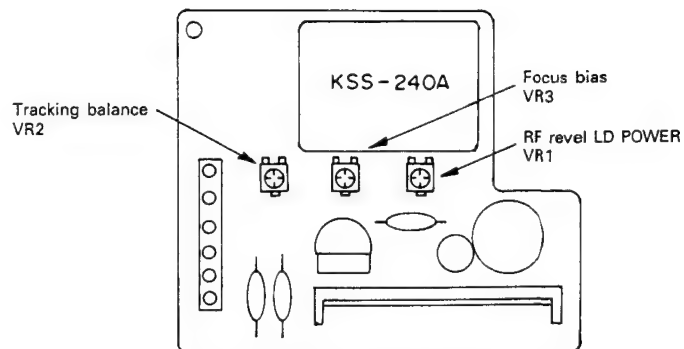
Nr.	GEGENSTAND	EINGANGSEINSTELLUNG	AUSGANGSEINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-TEIL		WÄHLER:FM					
1	DEMODULATOR	(A) 98,0MHz 1kHz, ± 75 kHz Abw. (M-, X-Typ) 1kHz, ± 40 kHz Abw. (E-, T-Typ) 60dB μ (ANT-Eingang)	Einen Gleichspannungsmesser zwischen TP3 und TP4 schließen. (X05-)	MONO 98,0MHz	L3	0V	(a)
2	VERZERRUNG (STEREO)	(C) 98,0MHz 1kHz, $\pm 68,25$ kHz Abw. Pilot: $\pm 7,5$ kHz Abw. (M-, X-Typ) 1kHz, ± 40 kHz Abw. Pilot: ± 6 kHz Abw. (E-, T-Typ) 60dB μ (ANT-Eingang)	(B) oder P58 (1-3)	AUTO 98,0MHz	L1 IFT (W02-)	Minimale Verzerrungen	
3	TRENNUNG (Nur E-, T-Typ)	(C) 98,0MHz 1kHz, ± 40 kHz Abw. Pilot: ± 6 kHz Abw. Wähler: L oder R 60dB μ (ANT-Eingang)	(B) oder P58 (1-3)	AUTO 98,0MHz	VR3 (X05-)	Minimales Übersprechen	
4	ABSTIMMPEGEL	(A) 98,0MHz 1kHz, ± 75 kHz Abw. (M-, X-Typ) 1kHz, ± 45 kHz Abw. (E-, T-Typ) 14dB μ (ANT-Eingang) 75 Ω 18dB μ (ANT-Eingang) 300 Ω	(B) oder P58 (1-3)	AUTO oder MONO 98,0MHz	VR1 (X05-)	VR1 auf die Position einstellen, in der ED1(TUNED) aufleuchtet.	
AM-(MW-) TEIL		WÄHLER:AM(MW)					
(1)	ABSTIMMPEGEL	(D) 990kHz 400Hz, 30% Mod 26dB μ (ANT-Eingang)	(B) oder P58 (1-3)	990kHz	(X05-) VR2	VR2 auf die Position einstellen, in der ED1(TUNED) aufleuchtet.	

UD-300

ADJUSTMENT

CAUTION

Pickup (KSS-240A) is adjustment free in repairing, please don't disassemble and adjust it.



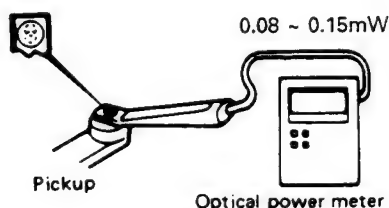
No.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FOR	FIG.
1	LASER POWER ※	—	Apply the sensor section of the optical power meter on the pickup lens.	Short-circuit pins TEST and enter the test mode. Press the play key to check that the LD emits light. Then, confirm that the display is "05"	—	On the power from 0.08 to 0.15mW, when the diffraction grating is correctly aligned with the RF level of 1.5Vp-p or more and the TE (servo open) level of 1.5Vp-p or more, the pickup is acceptable.	(a)
2	FOCUS GAIN	Test disc Type 4 Apply signal of 1.0kHz, 0.1Vrms to CN3 pin 2 and 3.	Connect a LPF to CN3 pin 2-3, to which connect an oscilloscope or two AC voltmeters.	Press the PLAY key. Confirm that the display is "05".	FOCUS GAIN VR2	Two VTVMs should read the same value.	(b)
3	TRACKING GAIN	Test disc Type 4 Apply signal of 1.0kHz, 0.1Vrms to CN3 pin 5 and 6.	Connect a LPF to CN3 pin 5-6, to which connect an oscilloscope or two AC voltmeters.	Press the PLAY key. Confirm that the display is "05".	TRACKING GAIN VR1	Two VTVMs should read the should value.	(b)

(NOTE) Type 4 disc : SONY YEDS-18 TEST DISC or equivalent.

LPF: around 47kohms+390pF or so.

Adjustment procedures are in TEST MODE.

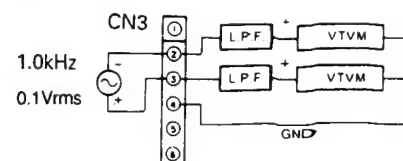
(a) Laser Power



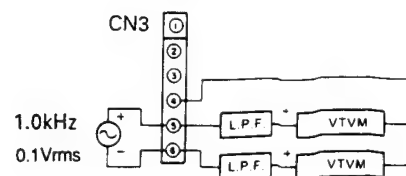
※ HAVE TO TAKE AWAY THE SUB-CHASSIS() AND PCB() From CD MECHA ASSY.

(b) Focus Gain and Tracking Gain

Focus gain :



Tracking gain :



REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU LECTEUR	POINTS DE L'ALIGNEMENT	ALIGNER POUR	FIG.
1	ALIMENTATION LASER ※	—	Appliquer la section de capteur du compteur d'alimentation optique sur l'optique de lecture.	Court-circuiter les broches TEST et passer dans le mode d'essai. Appuyer sur la touche de lecture pour vérifier que le LD émet de la lumière. Ensuite, vérifier que l'affichage est "05" .	—	Sur l'alimentation de 0,08 à 0,15mV lorsque la grille de diffraction est correctement alignée avec le niveau RF de 1,5V _{c-c} ou plus et le niveau TE (servo ouvert) de 1,5V _{c-c} ou plus, la lecture est acceptable.	(a)
2	GAIN DE FOCUS	Disque d'essai Type 4 Appliquer un signal de 1,0kHz, 0,1V _{rms} aux broches CN3 2 et 3.	Connecter un LPF aux broches CN3 2 et 3 auxquelles connecter un oscilloscope ou deux voltmètres AC.	Appuyer sur la touche de lecture. Vérifier que l'affichage est "05" .	GAIN DE FOCUS VR2	Deux VTVM doivent indiquer la même valeur.	(b)
3	GAIN D'ALIGNEMENT	Disque d'essai Type 4 Appliquer un signal de 1,0kHz, 0,1 V _{rms} aux broches CN3 5 et 6.	Connecter un LPF aux broches CN3 5 et 6 auxquelles connecter un oscilloscope ou deux voltmètres AC.	Appuyer sur la touche de lecture. Vérifier que l'affichage est "05" .	GAIN D'ALIGNEMENT VR1	Deux VTVM doivent indiquer la même valeur.	(b)

(NOTE) Disque type 4: DISQUE D'ESSAI SONY YEDS-18 ou équivalent.

LPF: environ 47 kohms + 390 pF à peu près.

Les procédures de réglage se font dans le MODE D'ESSAI.

ABGLEICH

Nr.	GEGENSTAND	EINGANGSEIN- STELLUNG	AUSGANGSEIN- STELLUNG	PLAYER-EIN- STELLUNG	ABGLEICH- PUNKT	ABGLEICHEN FÜR	ABB.
1	LASER-LEISTUNG ※	—	Den Sensorabschnitt des Optikleistungsme- ters am Abtaster ansetzen.	TEST-Pins Kurzsch- ließen und auf Test-Modus schalten. Die Wiedergabe- taste drücken, um sicherzustellen, daß LD Licht ausstrahlt. Dann sicherstellen, daß "05" angezeigt wird.	—	Wenn das optische Gitter richtig auf den HF-Pegel von 1,5Vss oder höher und den TE-Pegel(Servo auf) von 1,5Vss oder höher abgeglichen ist, ist der Abtaster bei einer Leistung zwischen 0,08 und 0,15 W in Ordnung.	(a)
2	FOKUSVER- STÄRKUNG	Test-Disc Typ 4 Ein Signal mit 1,0kHz, 0,1Vrms CN3-Pin 2 und 3 zuführen.	LPF an CN3-Pin 2-3 anschießen, woran ein Oszilloskop oder zwei Wechselspan- nungsmesser anges- chlossen werden.	Die PLAY-Taste drücken. Sicherstellen, daß "05" angezeigt ist.	FOKUSVER- STÄRKUNG VR2	Zwei VTVMs sollen denselben Wert anzeigen.	(b)
3	TRACKING- VERSTÄRKUNG	Test-Disc Typ 4 Ein signal mit 1,0kHz, 0,1 Vrms CN3-Pin 5 und 6 zuführen.	LPF an CN3-Pin 5-6 anschießen, woran ein Oszilloskop oder zwei Wechselspan- nungsmesser angeschlossen Werden.	Die PLAY-Taste drücken. Sicherstellen, daß "05" angezeigt ist.	TRACKING- VERSTÄRKUNG VR1	Zwei VTVMs sollen den Sollwert anzeigen.	(b)

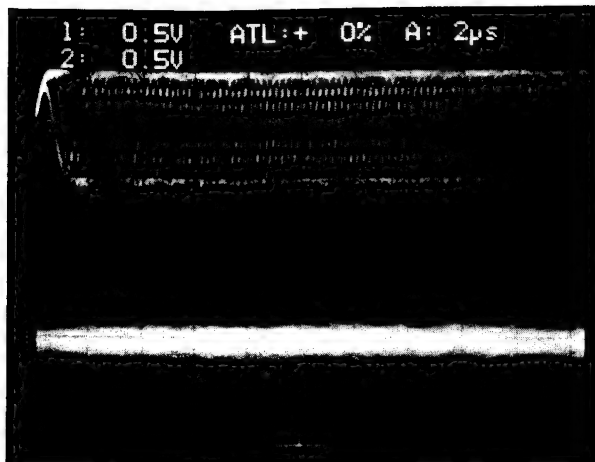
(HINWEIS)

Disc Typ 4: SONY YEDS-18-TEST-DISC oder gleichwertige.

LPF: ca. 47Kohm+390 pF.

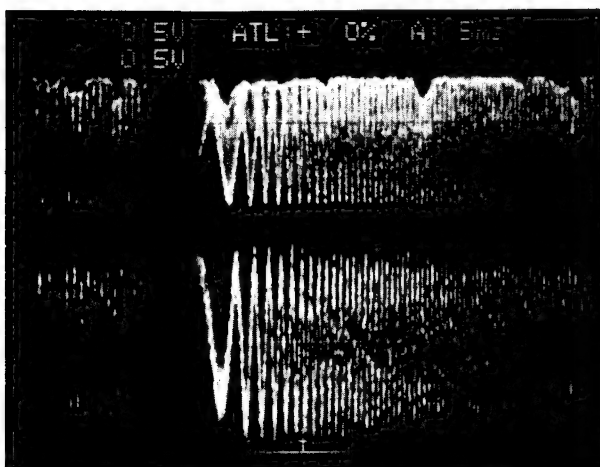
Einstellungen erfolgen im TEST-MODUS.

ADJUSTMENT

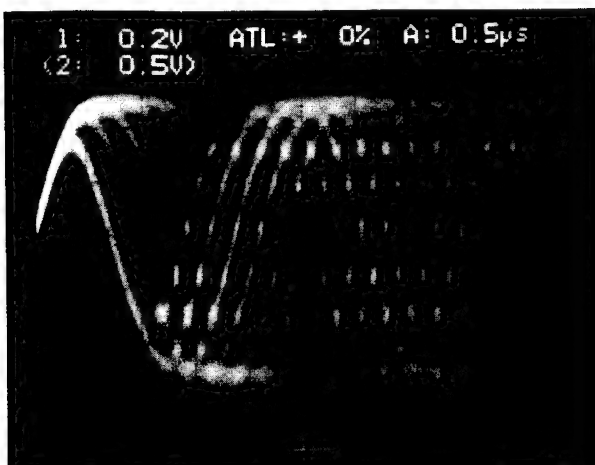


↑
16 μ s

- RF signal and E.Spot signal in test mode (PLAY).
- If the diffraction grating has been adjusted properly, the influence of triggering is observed on the E.Spot waveform of approx. 16 μ s after RF signal, in the form of a projection.



- RF signal and T.Error signal; in test mode (Focusing ON). (Disc type 4)



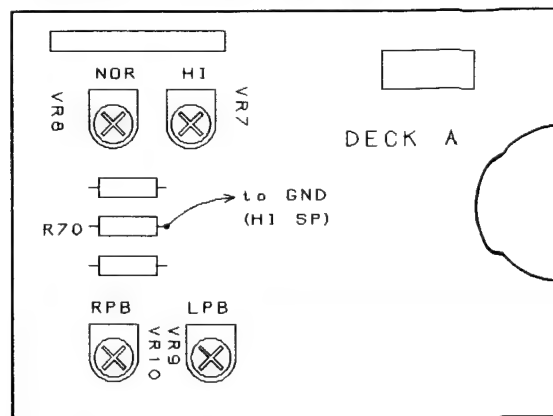
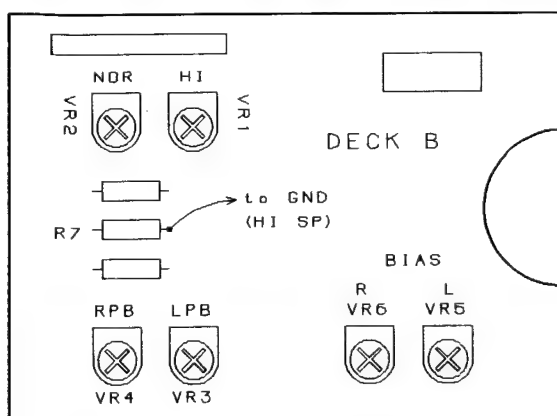
- RF signal in test mode (PLAY).

ADJUSTMENT

CSSSETTE DECK

NO.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	CASSETTE TAPE DECK SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
CASSETTE DECK SECTION TAPE:NORMAL, DOLBY:OFF, INPUT:LINE,OR AUX							
1 REC/PLAY HEAD							
[1]	DEMAGNETIZATION	—	—	POWER:OFF	REC/PLAY head	Demagnetize the REC/PLAY head with a head demagnetizer.	
[2]	CLEANING	—	—	PLAY	REC/PLAY head erase head, capstan, pinch roller.	Clean the REC/PLAY head erase head, capstan and pinch roller using a cotton swab slightly damped with alcohol.	
[3]	AZIMUTH	SCC1727 MTT-114, TCC-153 10kHz, -10dB	P58 (1~3)	PLAY	Azimuth adjustment screw	Maximum output.	
II PC board adjustment(X28-2450)							
<1>	TAPE SPEED (HI SPEED)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Connect R70 and GND (DECK A) or R7 and GND (DECK B) PLAY	DECK A : VR 7 DECK B : VR 1	Adjust the tape speed so that a 3kHz signal is produced at the center of the tape.	
<2>	TAPE SPEED (NORMAL)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Disconnect. PLAY.	DECK A : VR8 DECK B : VR2	Adjust the tape speed so that a 3kHz signal is produced at the center of the tape.	
<3>	PLAYBACK ** LEVEL	MTT-256U TCC-160 315Hz (0dB)	P58 (1~3)	PLAY	A VR9 (L) VR10 (R)	Output level : -5.0dBm	
		MTT-256 SCC1727 315Hz (-4dB)			B VR3 (L) VR4 (R)	Output level : -9.0dBm	
<4>	BIAS CURRENT **	(A) 1kHz, -28dBm 10kHz, -28dBm (-28dBm=30mV)	P58 (1~3)	Adjust AG output so that the SPEAKER output becomes -28dBm at 1kHz, then record and reproduce signal of 1kHz and 10kHz in alternation.	VR 5 (L) VR 6 (R)	Record 1kHz and 10kHz in alternation and adjust the variable resistors which control the bias current so that the same playback level is obtained.	

** Set VOLUME knob to the condition NB:MIN. GE EFFECT:OFF, AUX input:200mV, speaker output 200mV/8Ω.



REGLAGE

MAGNETOPHONE A CASSETTE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU MAGNETOPHONE A CASSETTE	POINTS DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION MAGNETOPHONE A CASSETTE BANDE:NORMAL DOLBY:OFF INPUT:LINE OU AUX							
1.TETE D'ENREGISTREMENT/LECTURE							
[1]	DEMAGNETISATION	—	—	ALIMENTATION COUPEE	Tête d'enregistrement/lecture	Démagnetiser la tête d'enregistrement/lecture avec l'effaceur de tête.	
[2]	NETTOYAGE	—	—	PLAY	Tête d'enregistrement/lecture, tête d'effacement, cabestan, galet presseur	Nettoyer la tête d'enregistrement/lecture, la tête d'effacement, la cabestan et le galet presseur avec un coton-tige légèrement trempé de l'alcool.	
[3]	AZIMUT	SCC1727 MTT-114, TCC-153 10kHz, -10dB	P58 (1~3)	PLAY	Vis d'ajustement de l'azimut	Puissance maximum	
II Ajustement de la plaquette de circuits imprimés(X28-2450)							
<1>	VITESSE DE LA BANDE (GRANDE VITESSE)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Connecter R70 et GND(PLATINE A) ou R7 et GND (PLATINE B) PLAY	PLATINE A:VR7 PLATINE B:VR1	Ajuster la vitesse de la bande pour qu'un signal de 3kHz soit produit au centre de la bande.	
<2>	VITESSE DE LA BANDE(NORMALE)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Déconnecté. PLAY.	PLATINE A:VR8 PLATINE B:VR2	Ajuster la vitesse de la bande de sorte qu'un signal de 3kHz soit produit au centre de la bande.	
<3>	NIVEAU DE LECTURE**	MTT-256U TCC-160 315Hz (0dB)	P58 (1~3)	PLAY	A VR9 (L) VR10 (R)	Niveau de sortie:-5,0dBm	
		MTT-256 SCC1727 315Hz (-4dB)			B VR3 (L) VR4 (R)	Niveau de sortie:-9,0dBm	
<4>	COURANT DE POLARISATION**	(A) 1kHz,-28dBm 10kHz,-28dBm (-28dBm=30mV)	P58 (1~3)	Ajuster la sortie de AG de sorte que a sortie de HAUT-PARLEUR deviennent -28 dBm a 1kHz, puis enregistrer et reproduire un signal de 1kHz et 10kHz alternativement.	VR 5 (L) VR 6 (R)	Enregistrer alternativement 1kHz et 10kHz et ajuster les résistances variables qui contrôlent le courant de polarisation de sorte que le même niveau de lecture soit obtenu.	

** Régler le bouton VOLUME à la condition. NB:MIN GE EFFECT:OFF, entrée AUX:200mV, sortie haut-parleur 200 mV/8Ω

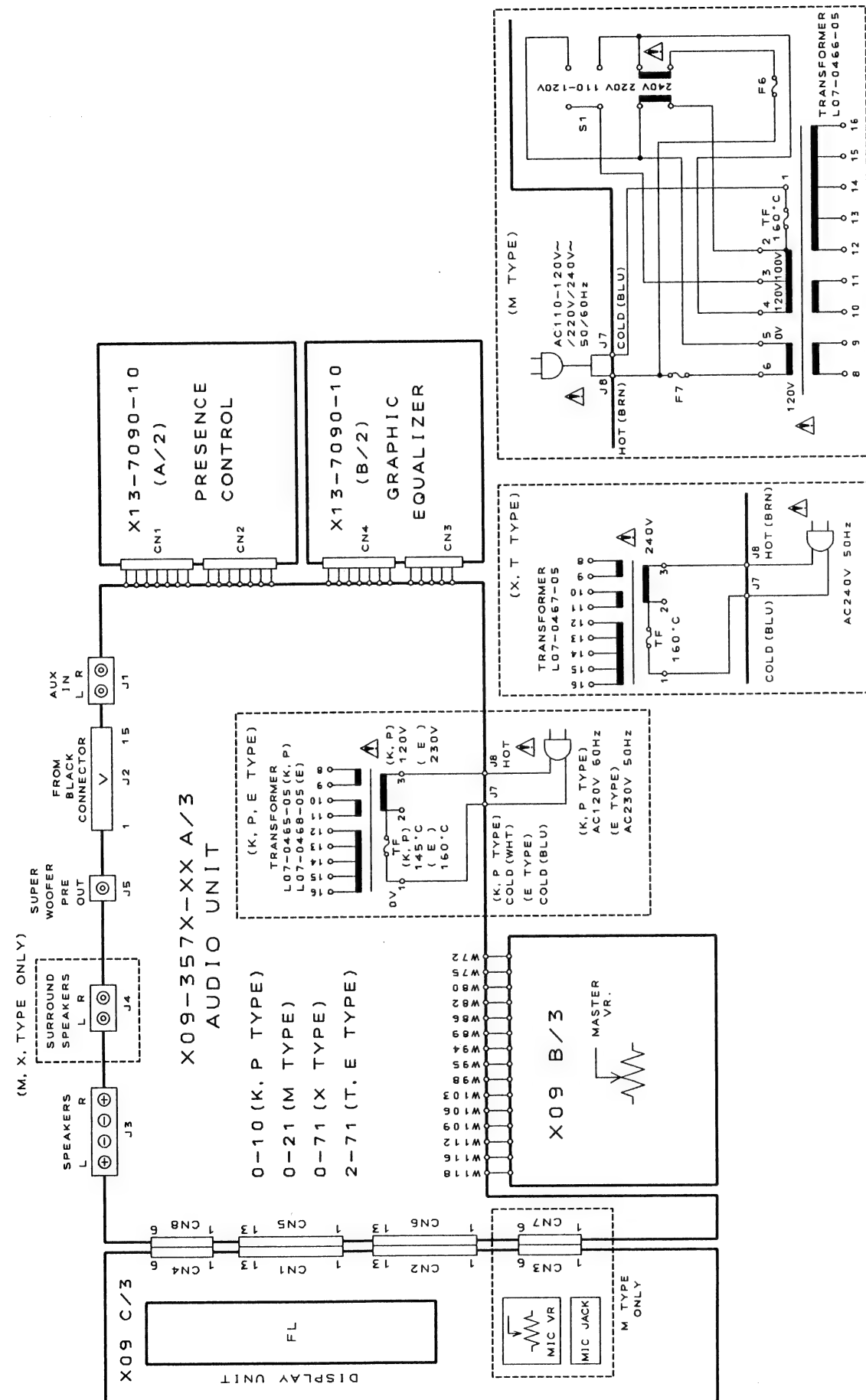
CASSETTENDECK

Nr.	GEGENSTAND	EINGANGSEINSTELLUNG	AUSGANGSEINSTELLUNG	CASSETTEN-DECK-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
CASSETTENDECK-TEIL BAND:NORMAL, DOLBY:OFF, EINGANG:LINE ODER AUX							
1.AUFNAHME/WIEDERGABEKOPF							
[1]	ENTMAGNETISIERUNG	—	—	POWER:OFF	Aufnahme/Wiedergabekopf (REC/PLAY)	Den REC/PLAY-Kopf mit einem Tonkopf-Entmagnetisierer entmagnetisieren.	
[2]	REINIGUNG	—	—	PLAY	REC/PLAY-Kopf, Löschkopf, Tonwelle und Andruckrolle.	REC/PLAY-Kopf, Löschkopf, Tonwelle und Andruckrolle mit einem leicht mit Alkohol angefeuchteten Wattestäbchen reinigen.	
[3]	AZIMUT	SCC1727 MTT-114, TCC-153 10kHz, -10dB	P58 (1~3)	PLAY	Azimut-Einstellschraube	Höchstleistung.	
II Platinen-Einstellung(X28-2450)							
<1>	BANDGESCHWINDIGKEIT (SCHNELL)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	R70 und GND (DECK A) oder R7 und GND(DECK B) verbinden PLAY	DECK A:VR7 DECK B:VR1	Die Bandgeschwindigkeit so einstellen, daß ein 3-kHz-Signal in der Mitte des Bands erzeugt wird.	
<2>	BANDGESCHWINDIGKEIT (NORMAL)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Abtrennen. PLAY.	DECK A:VR8 DECK B:VR2	Die Bandgeschwindigkeit so einstellen, daß ein 3-kHz-Signal in der Mitte des Bands erzeugt wird.	
<3>	WIEDERGABEPEGEL**	MTT-256U TCC-160 315Hz (0 dB)	P58 (1~3)	PLAY	A VR9 (L) VR10 (R)	Ausgangspegel:-5,0dBm	
		MTT-256 SCC1727 315Hz (-4 dB)			B VR3 (L) VR4 (R)	Ausgangspegel:-9,0dBm	
<4>	VORMAGNETISIERUNGSSTROM**	(A) 1kHz, -28dBm 10kHz, -28dBm (-28dBm=30mV)	P58 (1~3)	Den AG-Ausgang so einstellen, daß der SPEAKER-Ausgang bei 1kHz -28 dBm wird, dann abwechselnd ein Signal mit 1kHz und 10kHz aufzeichnen und reproduzieren.	VR 5 (L) VR 6 (R)	Abwechselnd 1kHz und 10kHz aufzeichnen und die Vormagnetisierungsstrom-Stellwiderstände so einstellen, daß derselbe Wiedergabepegel erhalten wird.	

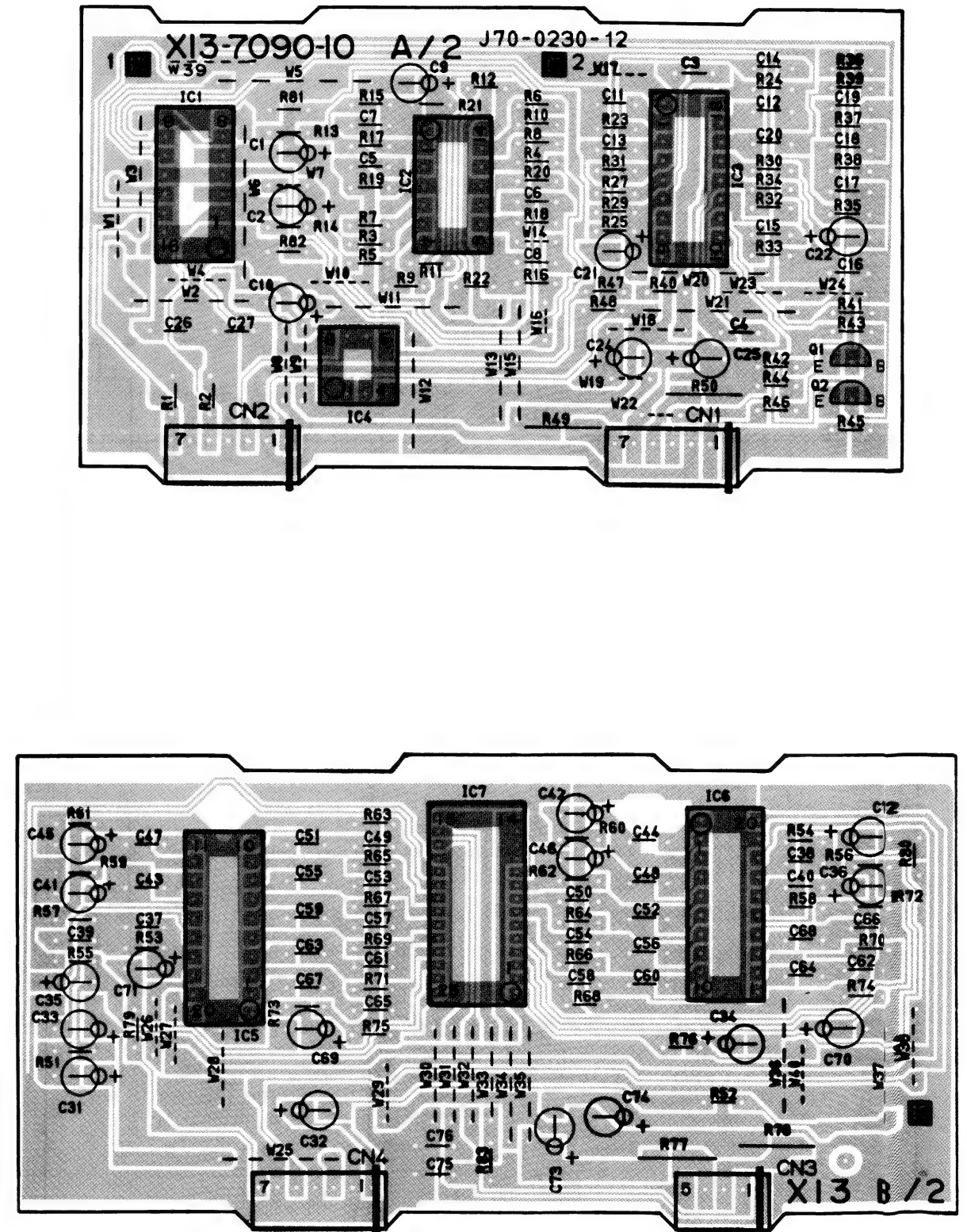
** Den VOLUME-Knopf entsprechend einstellen NB:MIN, GE EFFECT:OFF, AUX-Eingang:200mv, Lautsprecher-Ausgang 200mV/8Ω

UD-300

WIRING DIAGRAM



PC BOARD (Component side view)

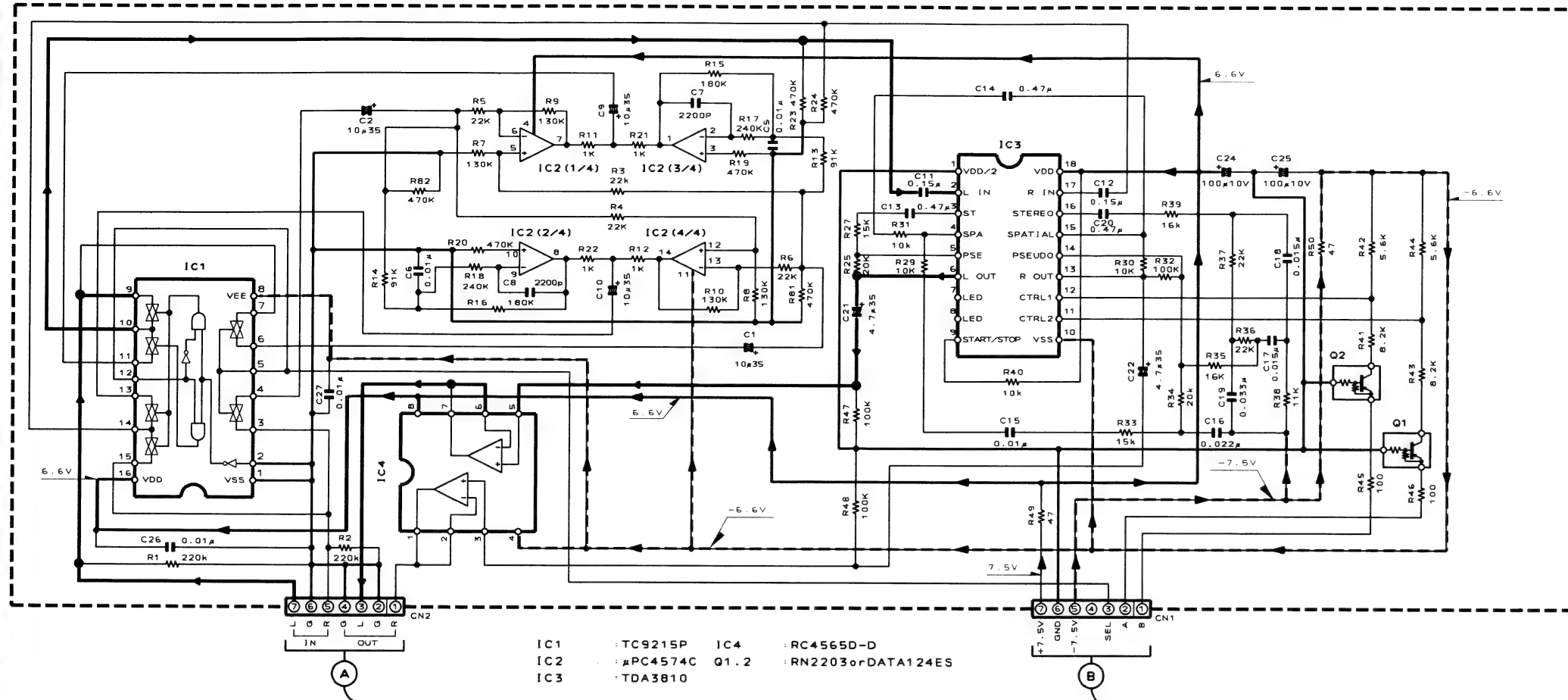


7

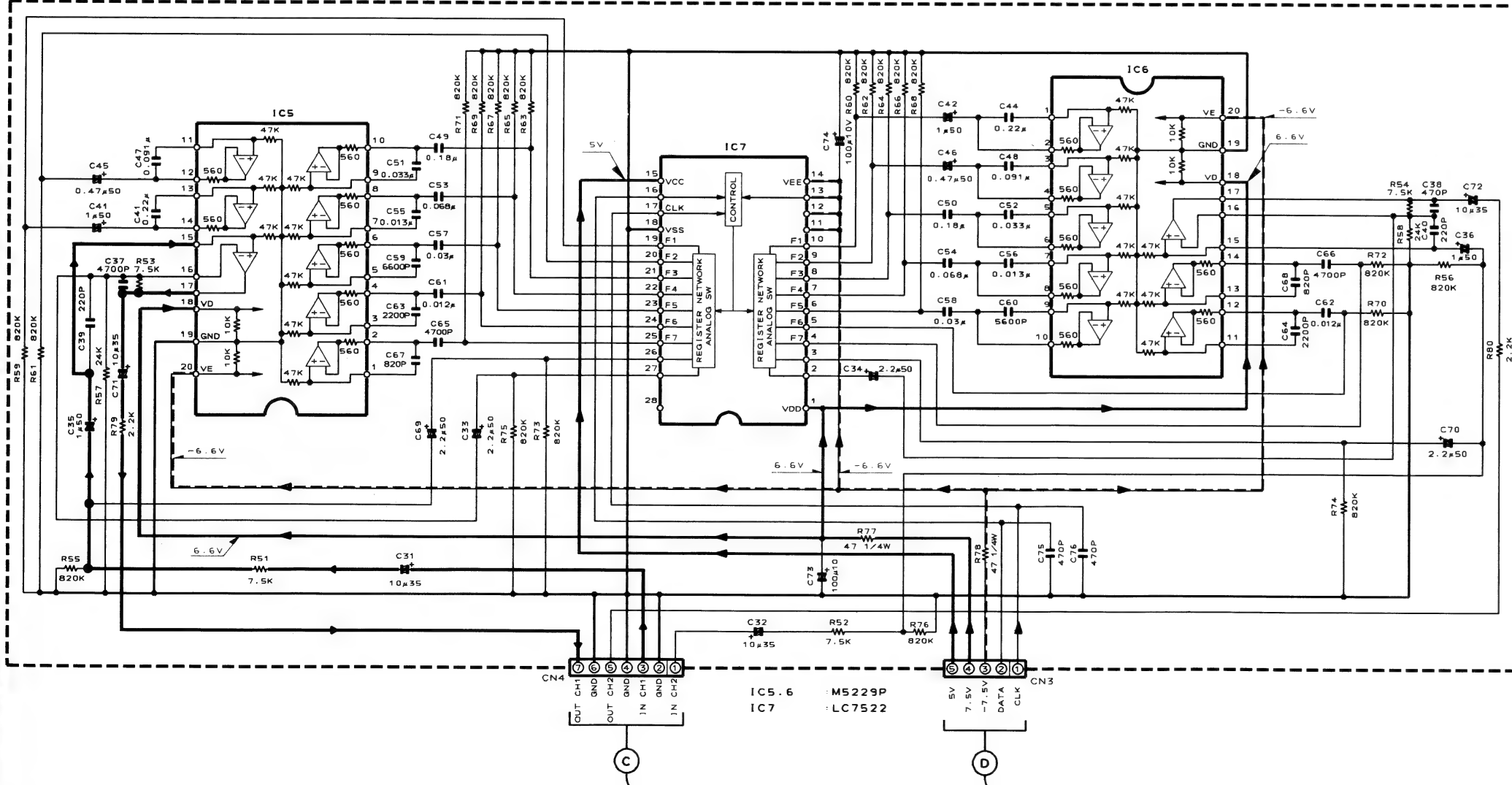


Refer to the schematic diagram for the values of resistors and capacitors.

X13-7090-10 A/2 PRESENCE CONTROL



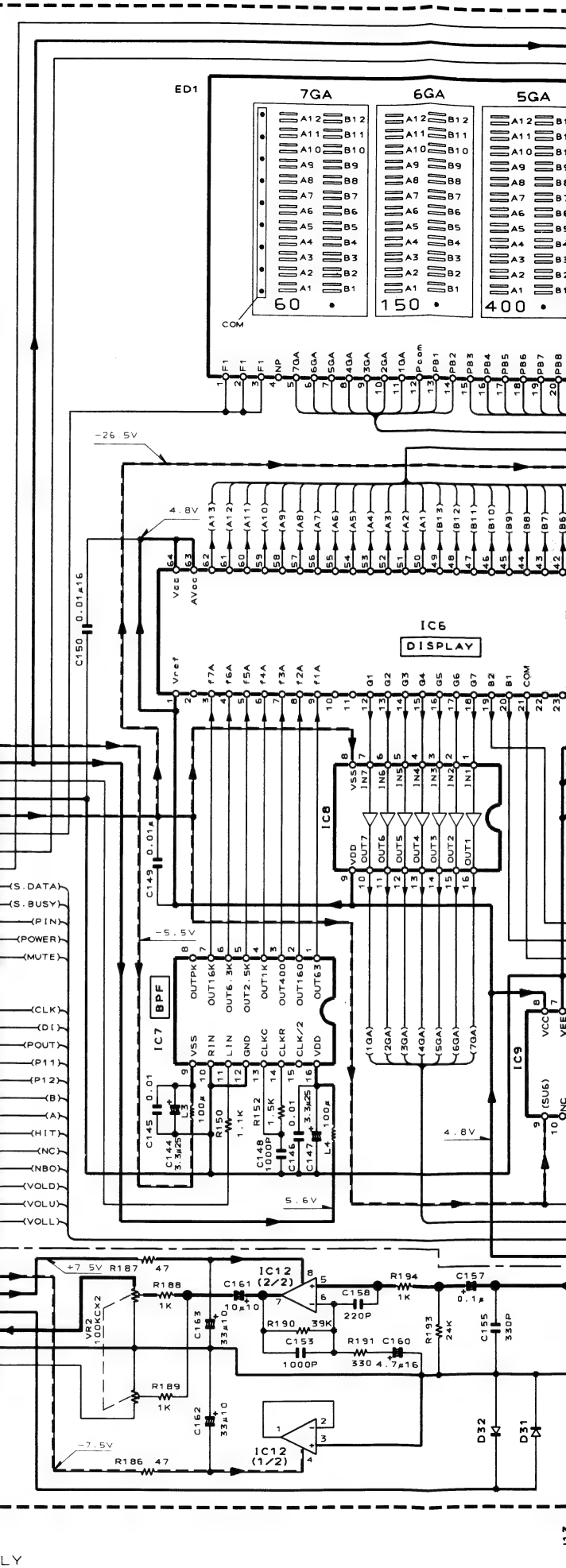
X13-7090-10 B/2 GRAPHIC EQUALIZER



X09-357X-XX C/3

IC6 : M50940-345SP
 IC7 : XR-1091DCP
 IC8 : PA80C
 IC9 : LB1294
 IC10 : CXP50112-3750
 IC11 : PST6200
 IC12 : NJM45650-0
 Q60
 D31, 32 : 1SS133
 34~36 : or HSS104
 D33 : B30-1291-05 (9)
 ED1 : FIP13CW19Y

X09-357X-XX C/3



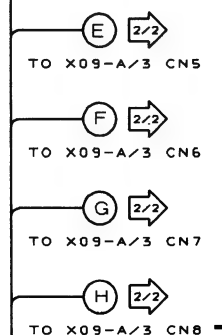
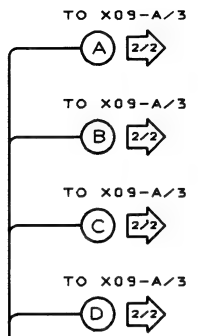
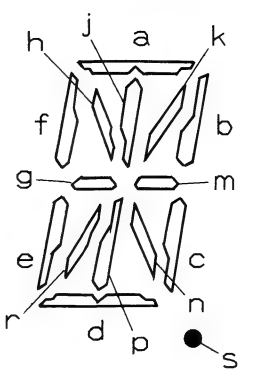
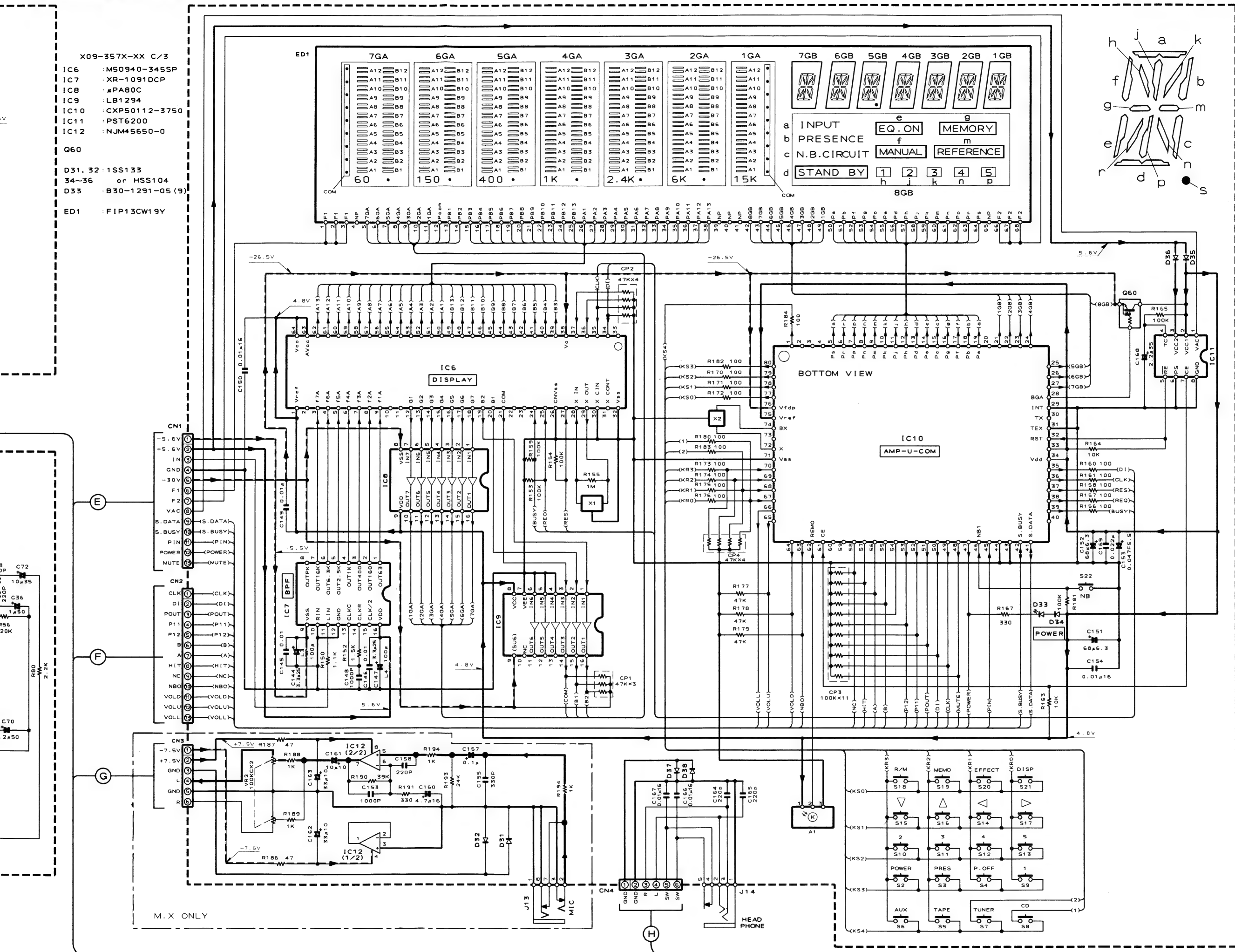
X09-357X-XX C/3

IC6	: M50940-345SP
IC7	: XR-1091DCP
IC8	: μ PA80C
IC9	: LB1294
IC10	: CXP50112-3750
IC11	: PST6200
IC12	: NJM45650-0

Q60

D31, 32 : 1SS133
34~36 or HSS104
D33 : B30-1291-05 (9)

ED1 : FIP13CW19Y



2SA954 2S
2SA992 2S
2SA999 2S



2S
2S

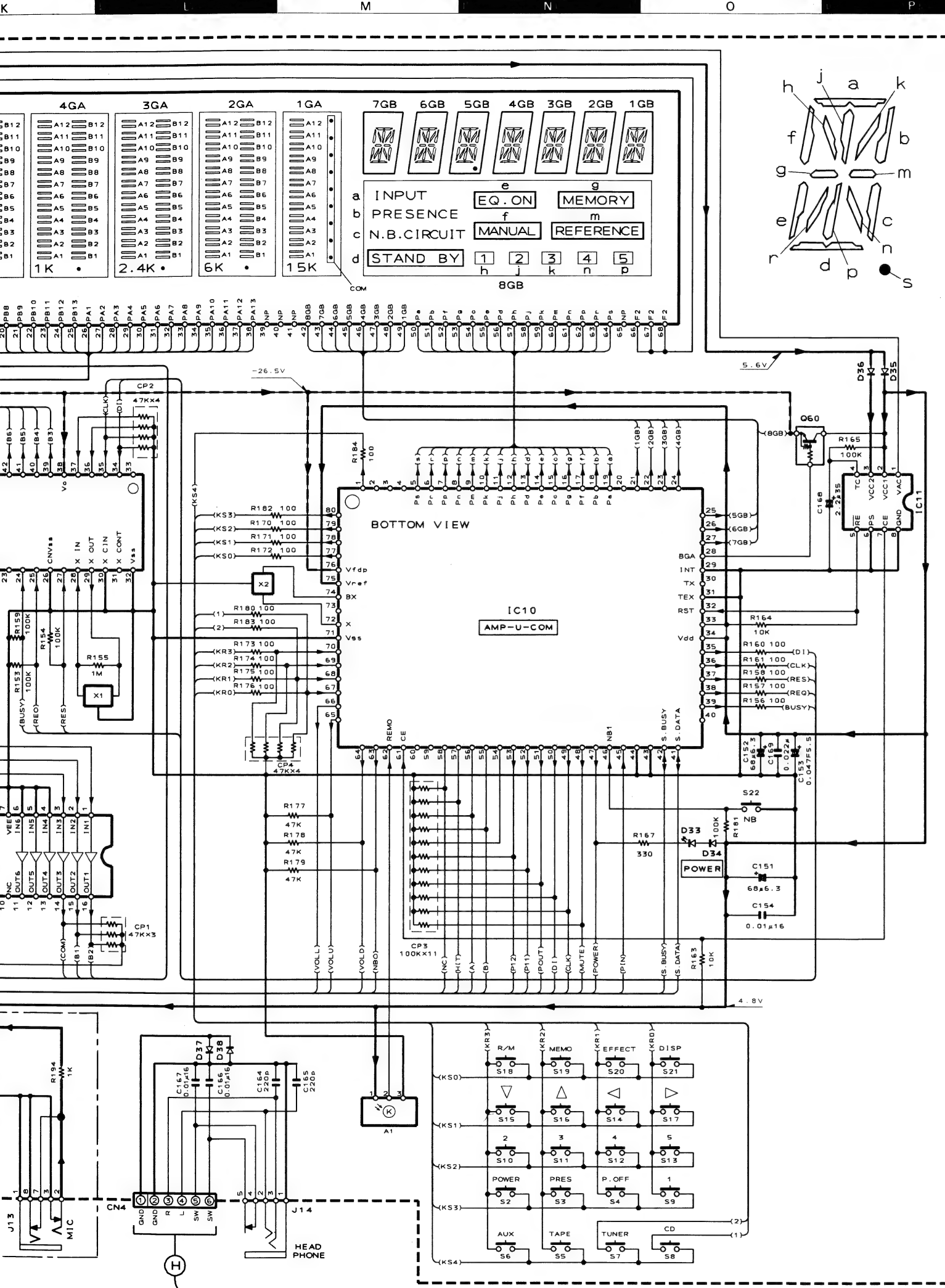
1

1

OF

CXA⁺

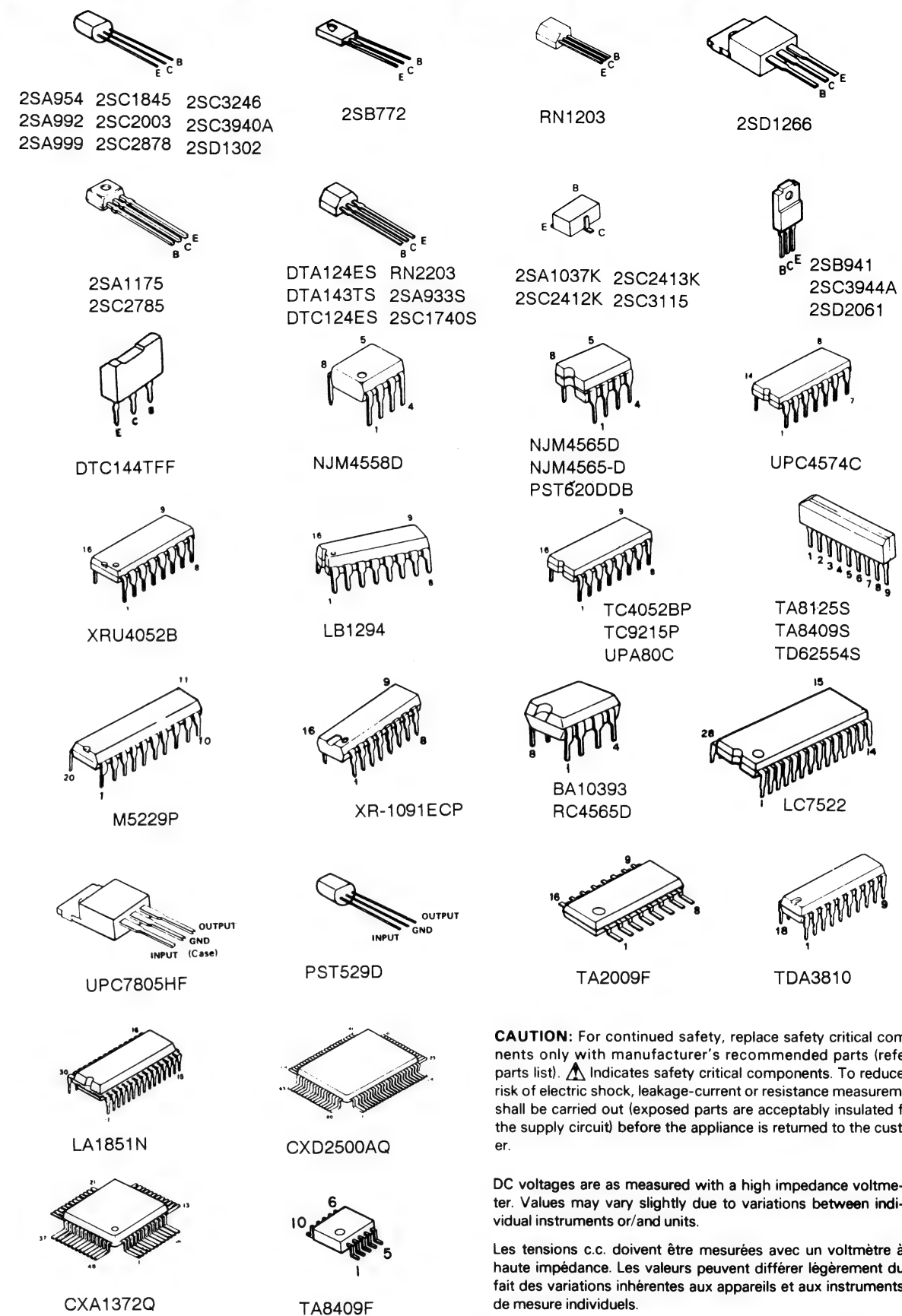
— GND LINE
— +B LINE
— -B LINE



TO X09-A/3
 (A) 2/2
 TO X09-A/3
 (B) 2/2
 TO X09-A/3
 (C) 2/2
 TO X09-A/3
 (D) 2/2

(E) 2/2
 TO X09-A/3 CN5
 (F) 2/2
 TO X09-A/3 CN6
 (G) 2/2
 TO X09-A/3 CN7
 (H) 2/2
 TO X09-A/3 CN8

SIGNAL LINE
 GND LINE
 +B LINE
 -B LINE



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

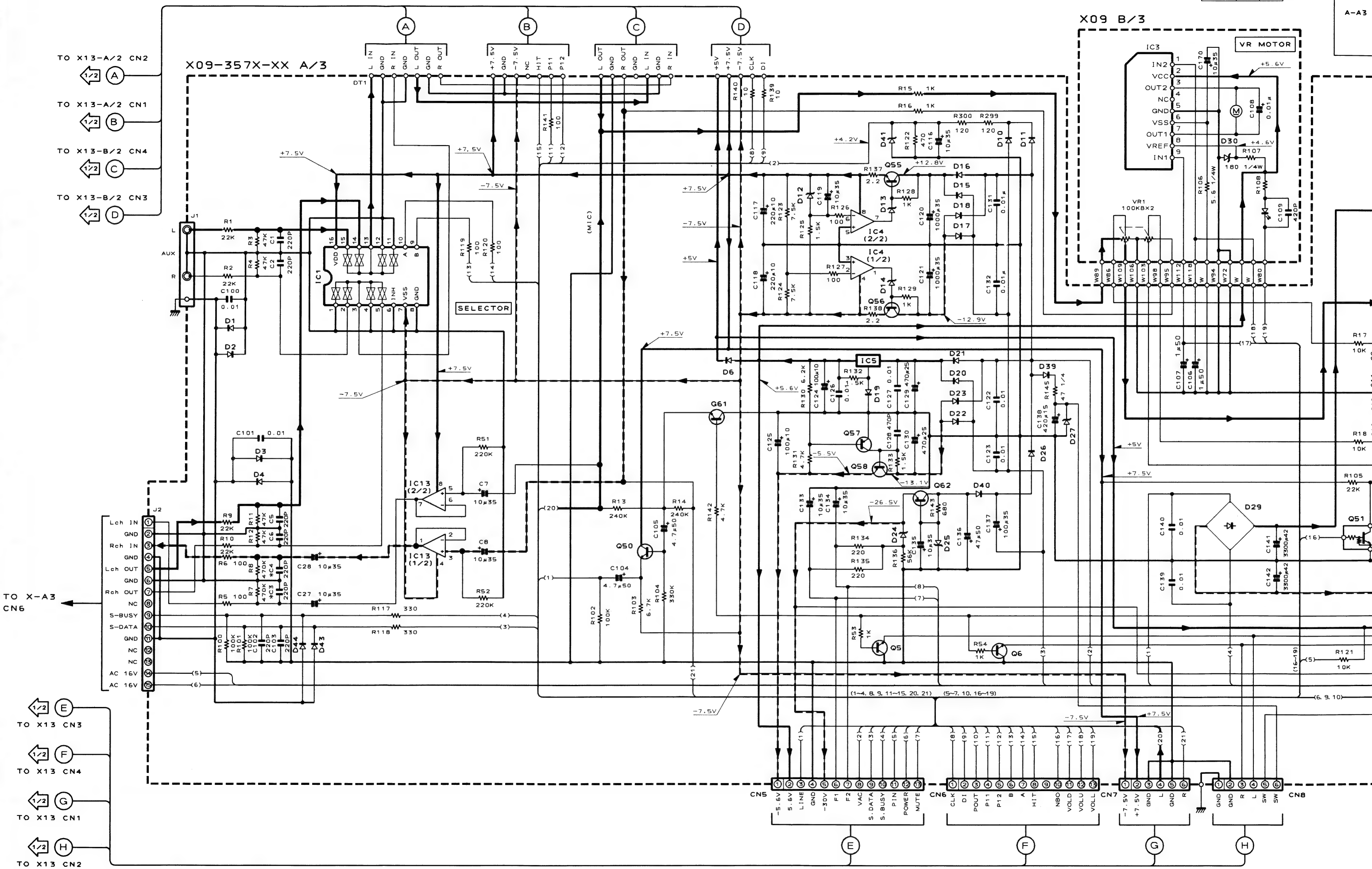
DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

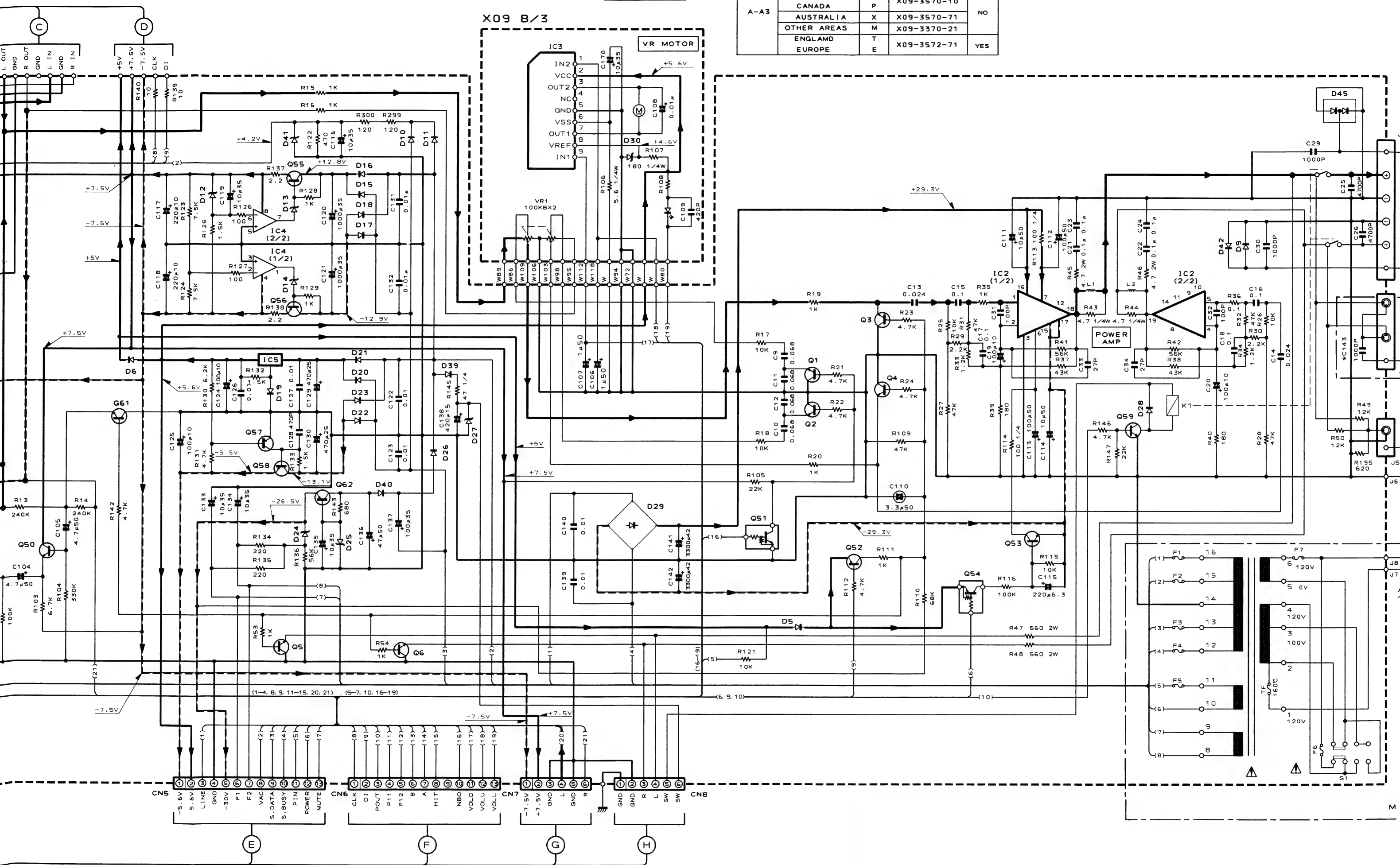
MODE	PIN	
	(1)	(9)
CCW	1	0
CW	0	1

X09-357X-	
A-A3	
C	



MODE	PIN	
	(1)	(9)
CCW	1	0
CW	0	1

X09-357X-XX				
A-A3	COUNTRY	ABB.	UNIT NAME	*C3, 4
	USA	K	X09-3570-10	NO
	CANADA	P	X09-3570-71	
	AUSTRALIA	X	X09-3570-71	
	OTHER AREAS	M	X09-3370-21	YES
	ENGLAND	T	X09-3572-71	
	EUROPE	E	X09-3572-71	

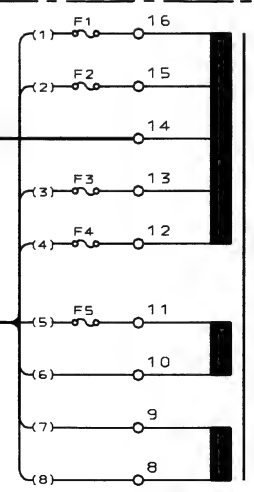


X09 B/3

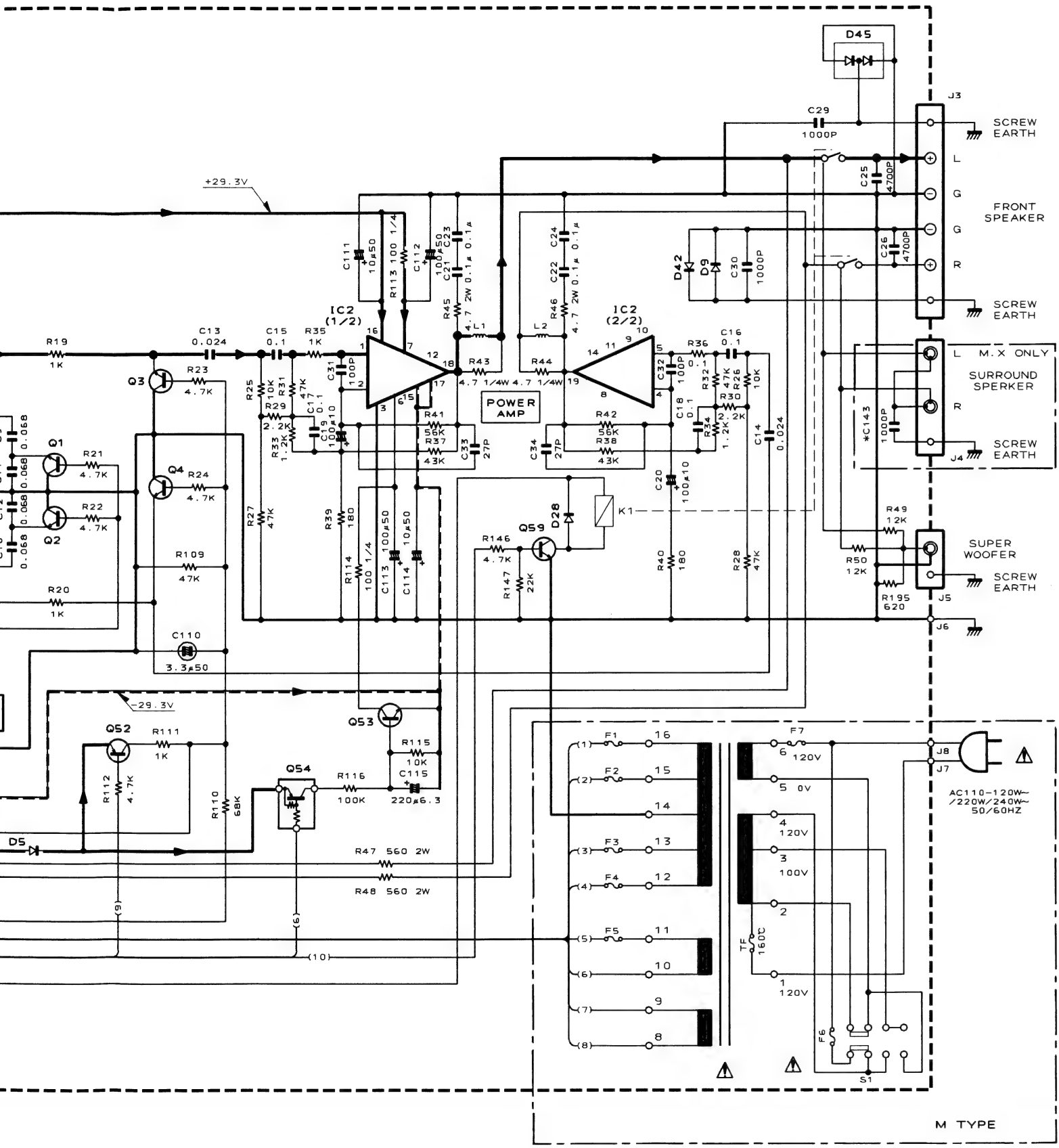
VR MOTOR

IC2 (2/2)

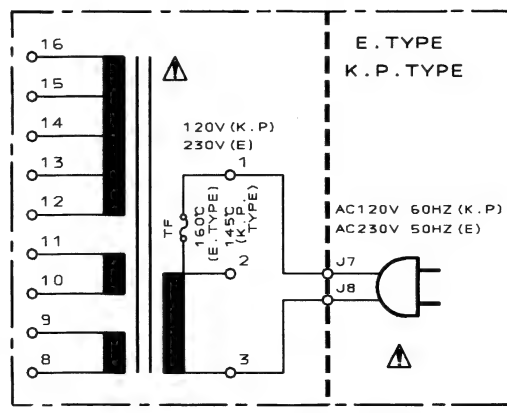
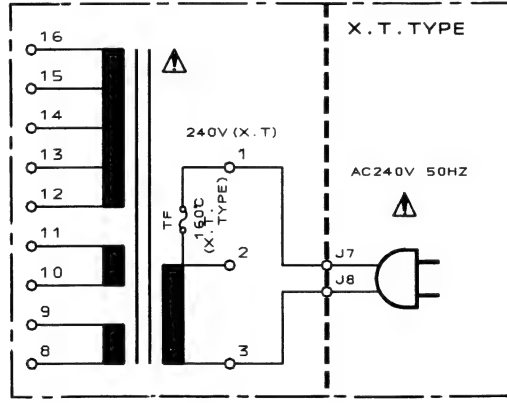
POWER AMP



COUNTRY	ABB.	UNIT NAME	*C3, 4
USA	K	X09-3570-10	NO
CANADA	P	X09-3570-71	
AUSTRALIA	X	X09-3570-21	
OTHER AREAS	M	X09-3572-71	YES
ENGLAND	T		
EUROPE	E		



- IC1 : TC4052BP
 IC2 : STK4140MK2 (K)
 : STK4140MK5 (E)
 : STK4150MK2 (M, X)
 IC3 : TA8409S
 IC4 : NJM45580
 IC5 : μ PC7805HF
 IC13 : NJM45650-0
- Q1, 2, 50 : 2SC1740S (Q, X)
 : or 2SC278S (F, E)
 Q3, 4, 5, 6, 61 : 2SC2878 (B)
 Q51 :
 Q52, 57 : DTC124ES or RN1203
 : 2SA933S (Q, R) or
 : 2SA1175 (F, E)
 Q53 : 2SC1845 (F, E)
 Q54 : DAT124ES or RN2203
 Q55 : 2SD1266 (Q, P)
 Q56 : 2SB941 (Q, P)
 Q58 : 2SB772 (Q, P)
 Q59 : 2SC2003 (L, K)
 Q62 : 2SA992 (F, E)
- D1~8, 10, 11 : 1SS133 or HSS104
 19, 28, 31 : 1SS133 or HSS104
 37, 38 :
 D12, 24 : RD7.5JS (B) or HZS7.5S (B)
 D13, 14 : RD8.2ES (B2) or
 : HZS8.2N (B2)
 D15~18 : 1SR139-100
 20~23, 26 : 1SR139-100
 39, 40 :
 D25 : RD30ES (B) or HZS30N (B)
 D27 : RD13ES (B2) or HZS13N (B2)
 D29 : D5SBA20F03
 D30, 41 : R04.7ES (B2) or
 : HZS4.7N (B2)
 D45 : MA177



— SIGNAL LINE
 — GND LINE
 — +B LINE
 - - - -B LINE

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

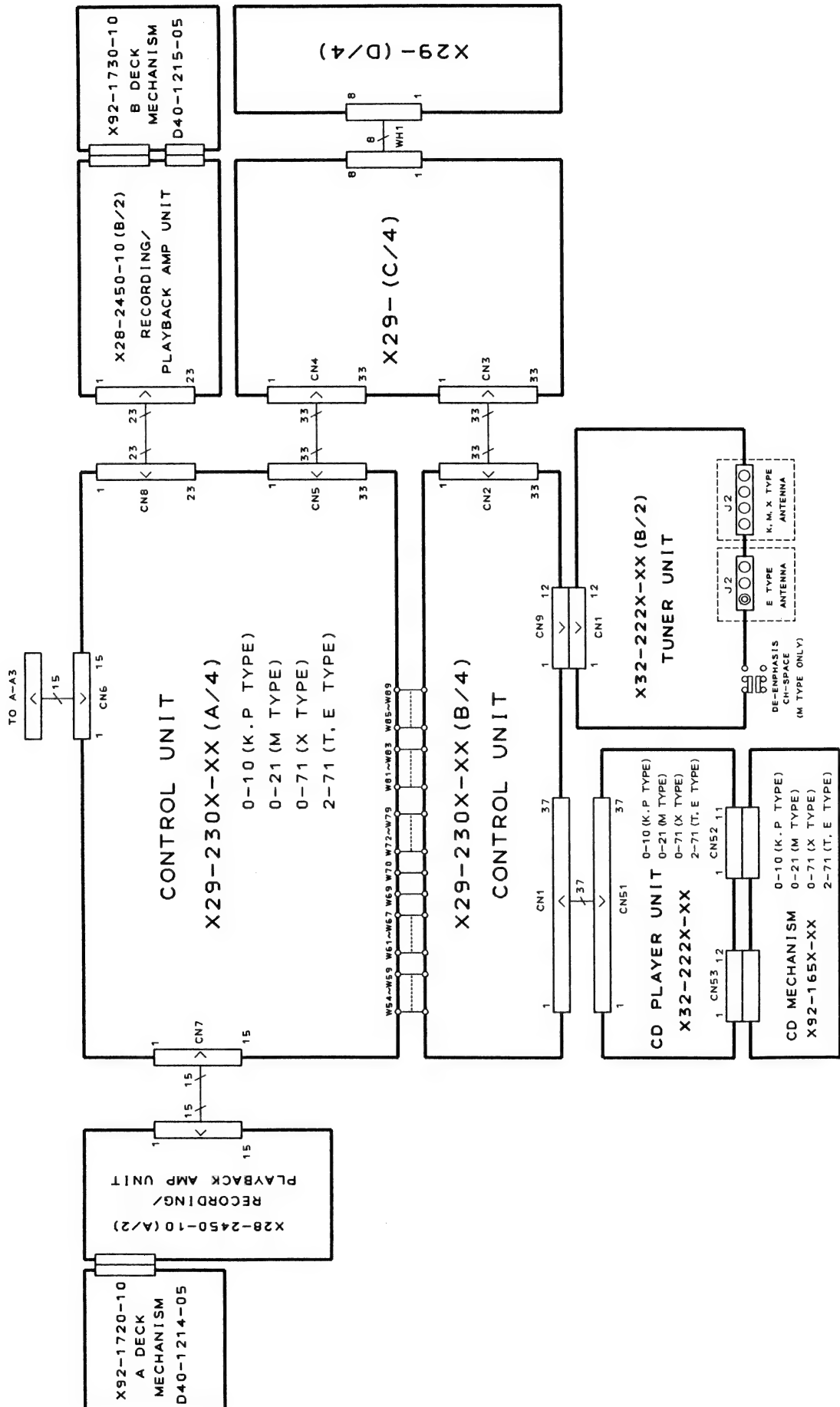
DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

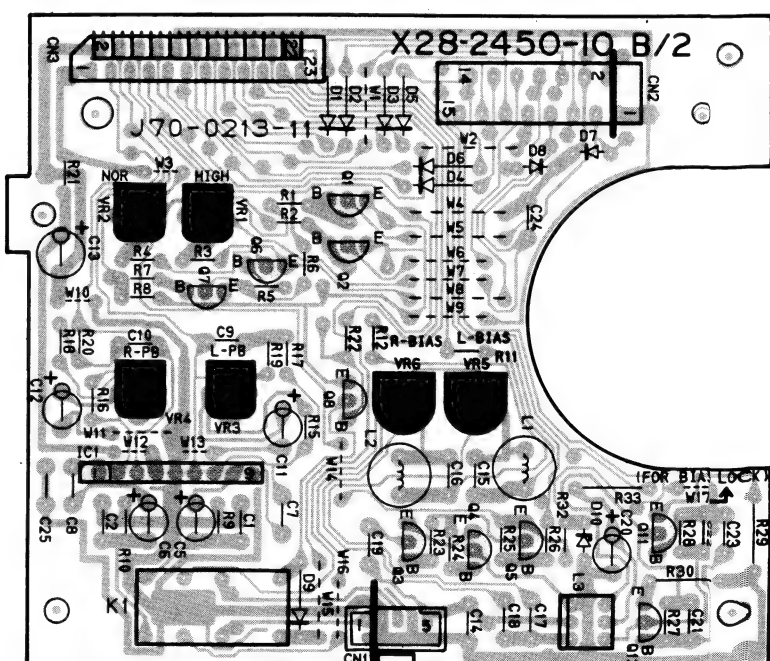
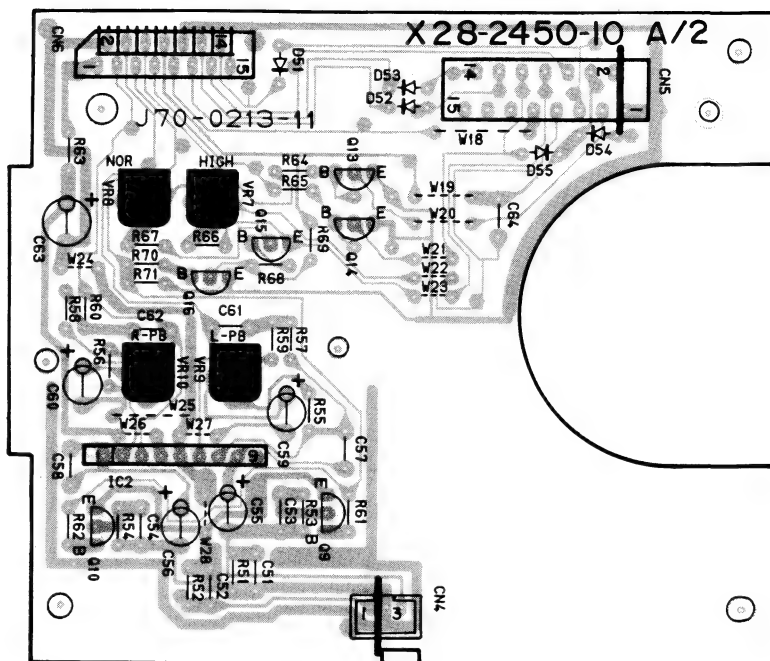
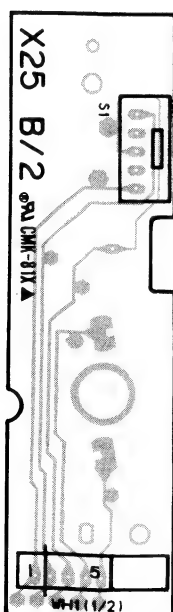
Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

WIRING DIAGRAM

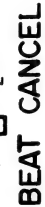
X-A3



7

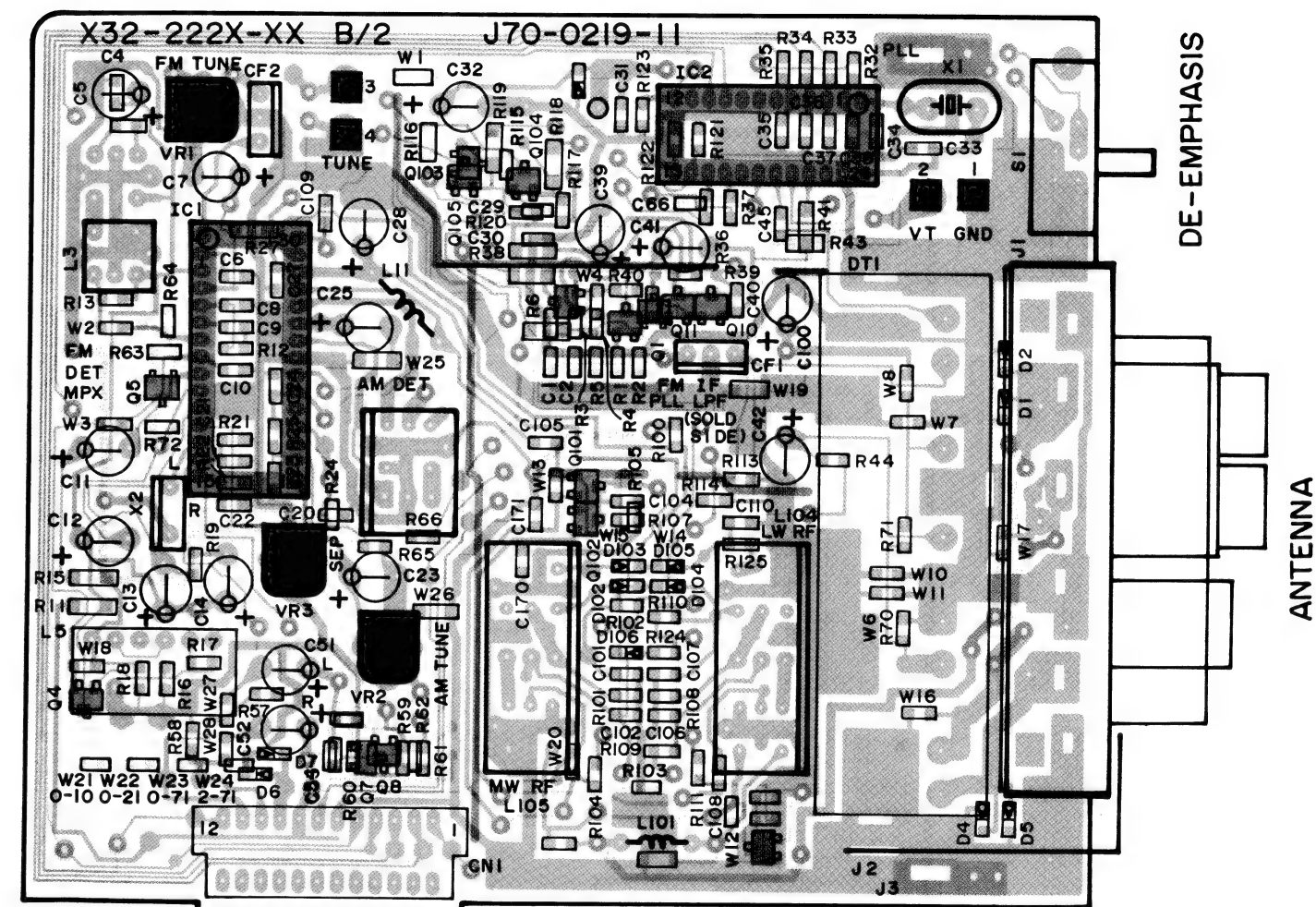
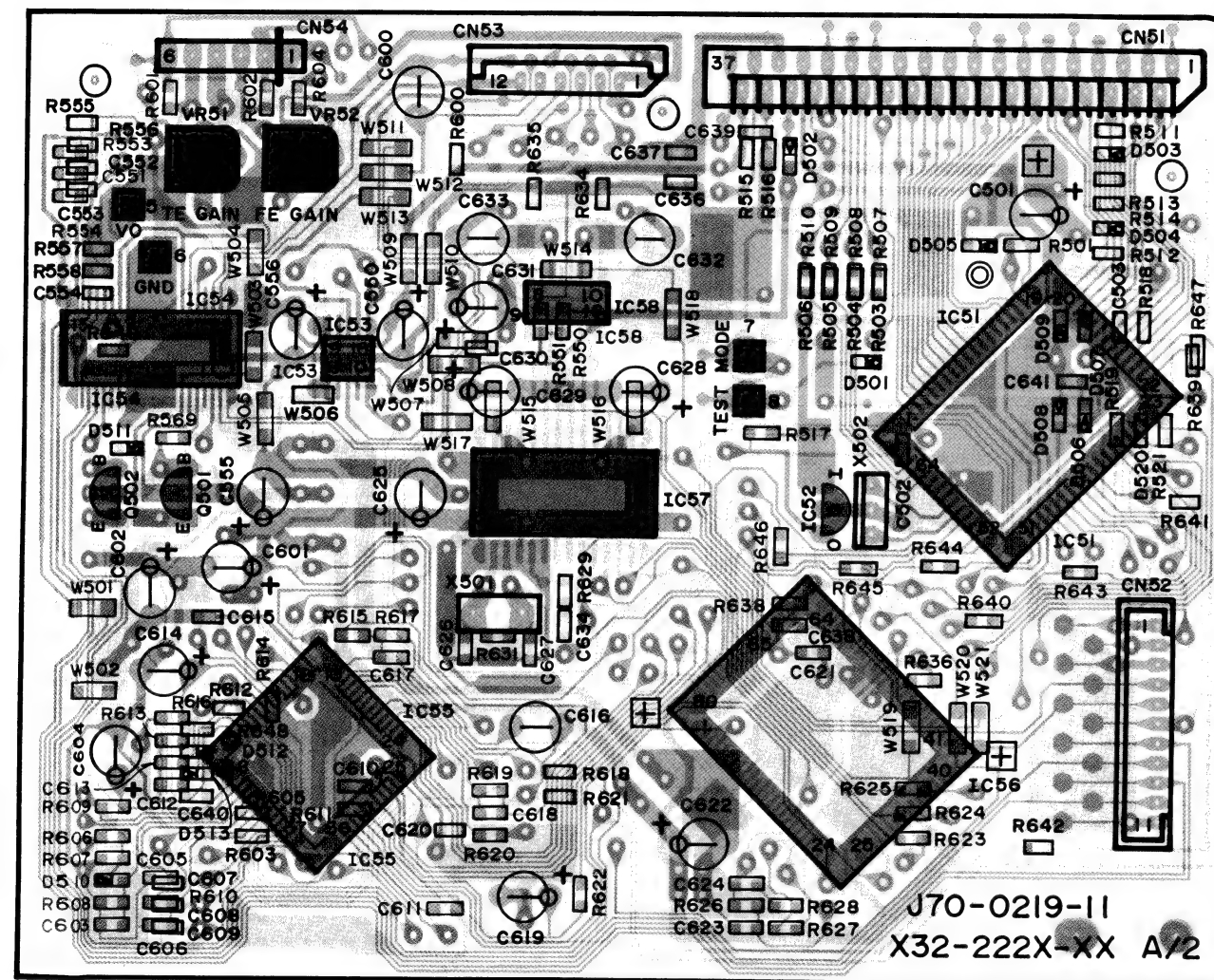


1

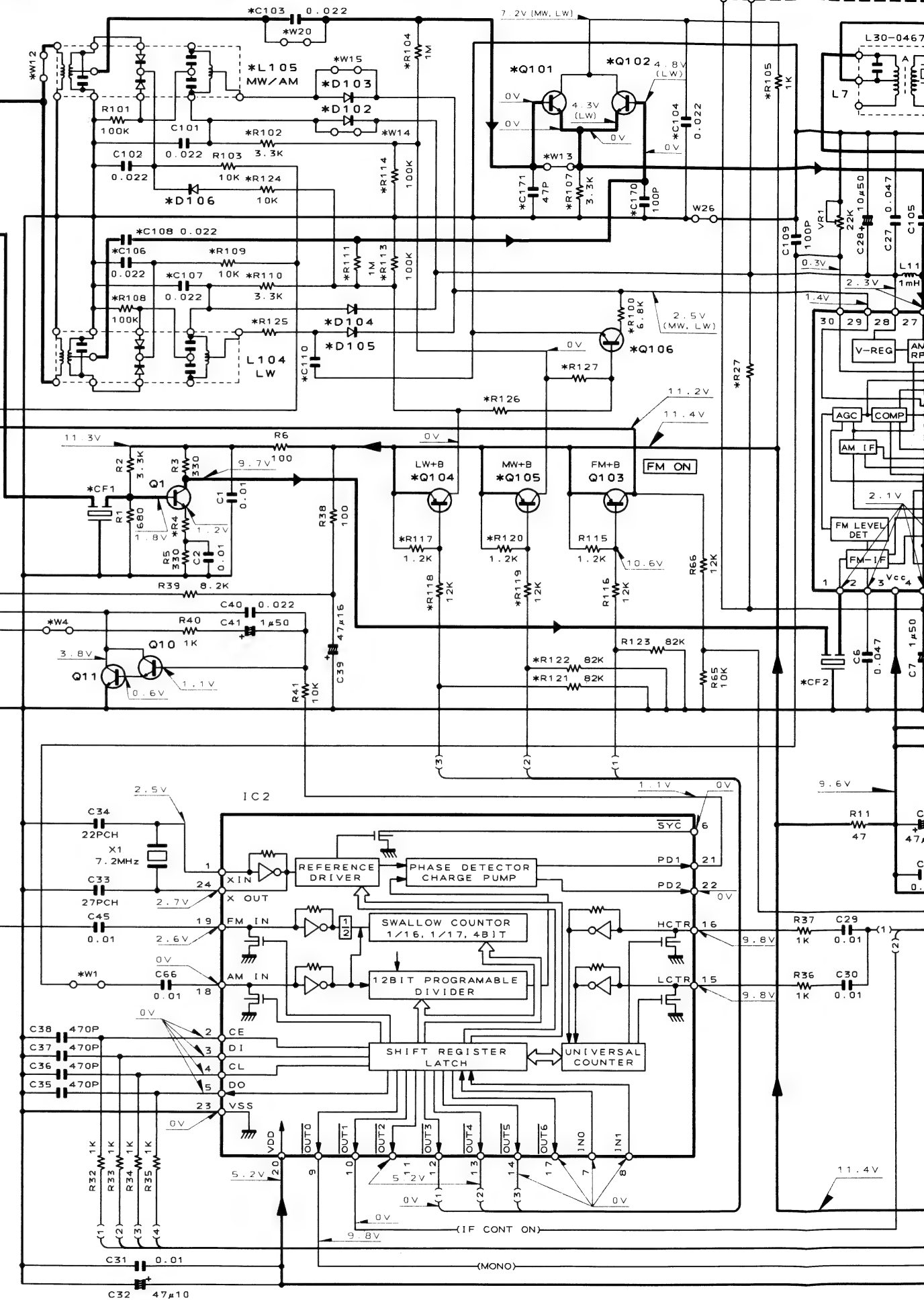
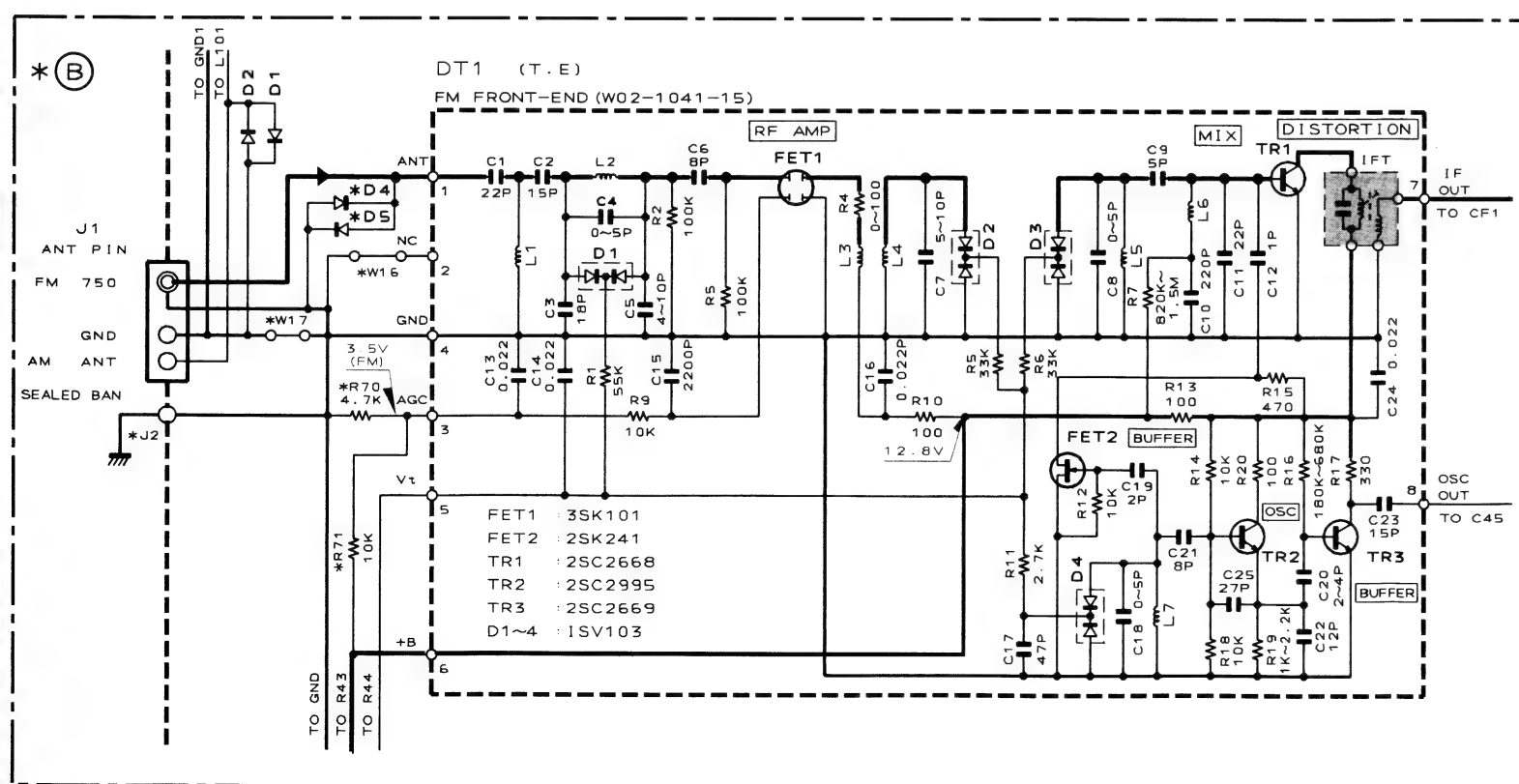
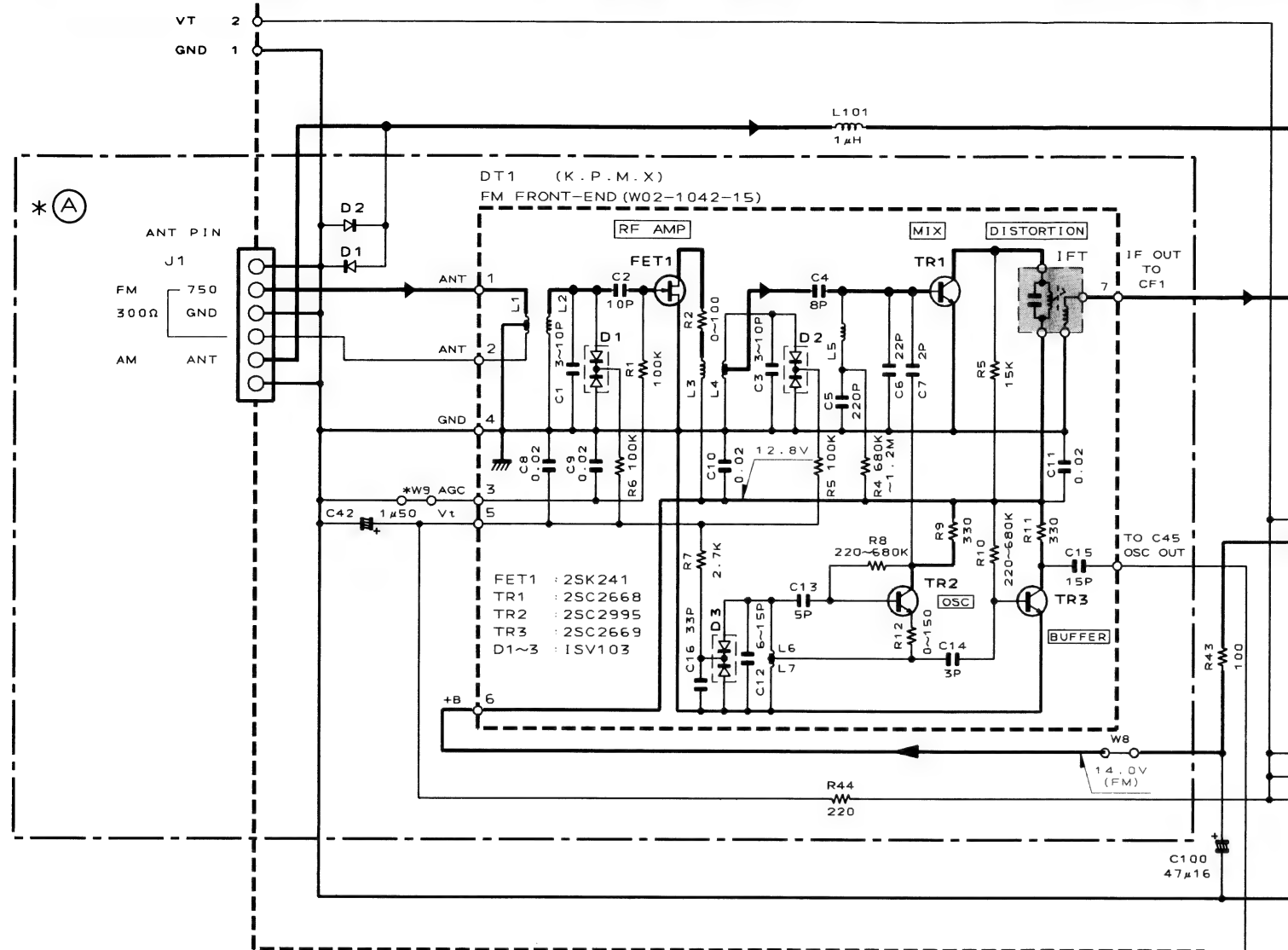


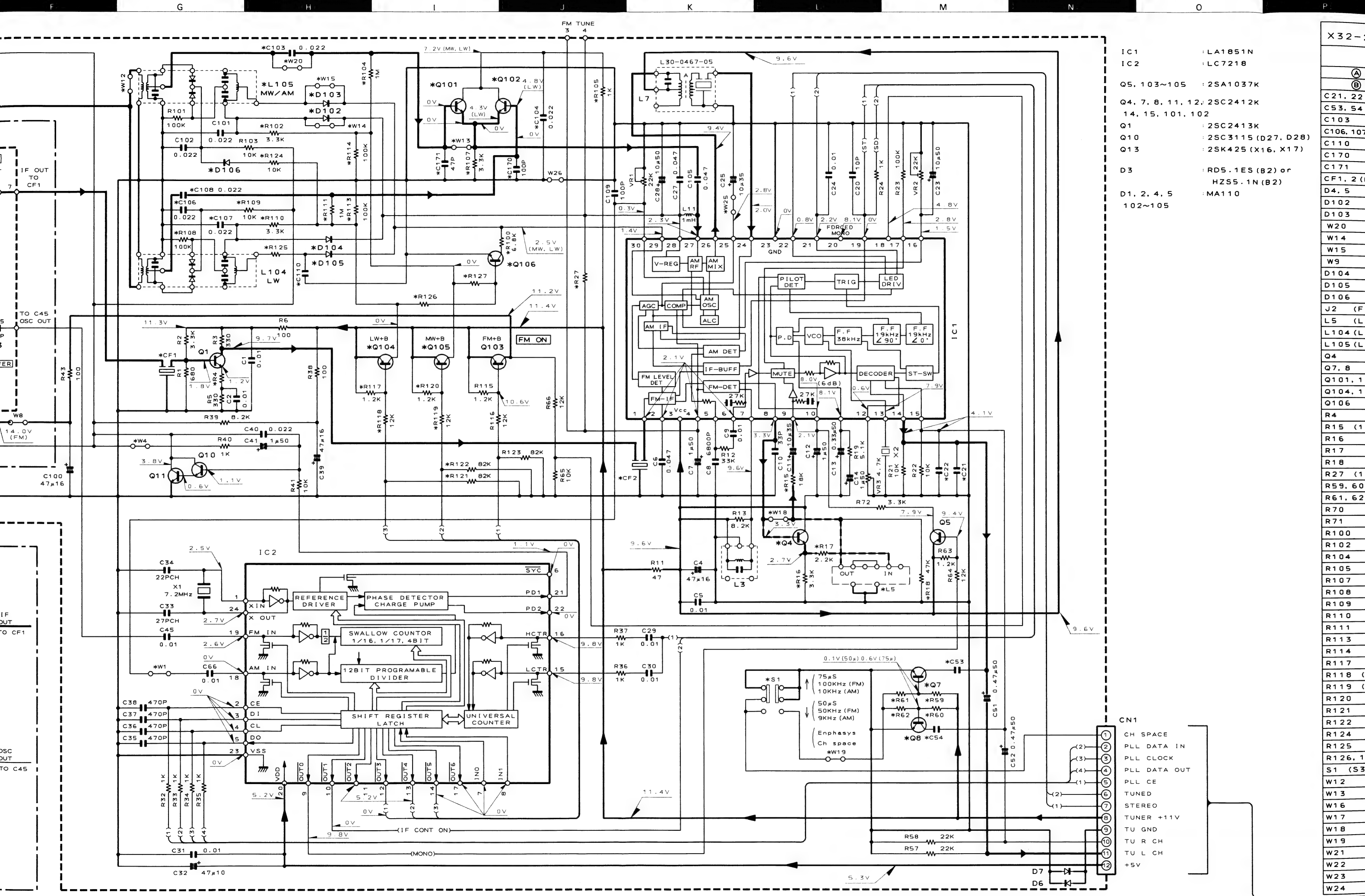
P Q R S T U V W X Y

PC BOARD (Component side view)



Refer to the schematic diagram for the values of resistors and capacitors.



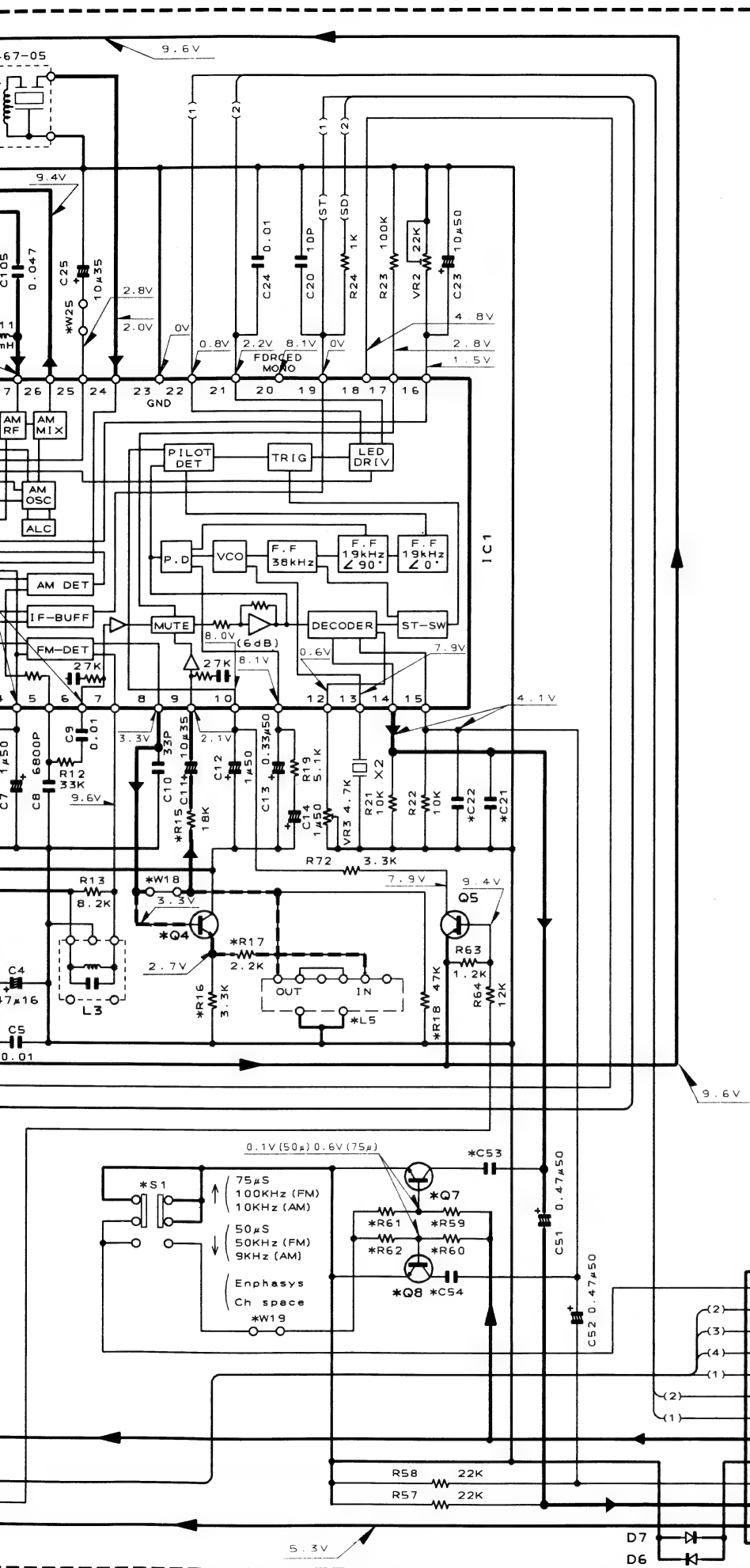


- IC1 : LA1851N
IC2 : LC7218
- Q5, 103~105 : 2SA1037K
Q4, 7, 8, 11, 12 : 2SC2412K
14, 15, 101, 102
Q1 : 2SC2413K
Q10 : 2SC3115 (D27, D28)
Q13 : 2SK425 (X16, X17)
- D3 : RD5.1ES (B2) or
HZS5.1N (B2)
D1, 2, 4, 5 : MA110
102~105

- CN1
- CH SPACE
 - PLL DATA IN
 - PLL CLOCK
 - PLL DATA OUT
 - PLL CE
 - TUNED
 - STEREO
 - TUNER +11V
 - TU GND
 - TU R CH
 - TU L CH
 - +5V

X32-
(A)
(B)
C21, 22
C53, 54
C103
C106, 107
C110
C170
C171
CF1, 2
D4, 5
D102
D103
W20
W14
W15
D104
D105
D106
J2 (F
L5 (L
L104 (L
L105 (L
Q4
Q7, 8
Q101, 1
Q104, 1
Q106
R4
R15 (1
R16
R17
R18
R27 (1
R59, 60
R61, 62
R70
R71
R100
R102
R104
R105
R107
R108
R109
R110
R111
R113
R114
R117
R118 (
R119 (
R120
R121
R122
R124
R125
R126, 1
S1 (S3
W12
W13
W16
W17
W18
W19
W21
W22
W23
W24

L M N O P Q R S T U



- IC1 : LA1851N
IC2 : LC7218
Q5, 103~105 : 2SA1037K
Q4, 7, 8, 11, 12, 2SC2412K
14, 15, 101, 102
Q1 : 2SC2413K
Q10 : 2SC3115 (D27, D28)
Q13 : 2SK425 (X16, X17)
D3 : RD5.1ES (B2) or
HZS5.1N (B2)
D1, 2, 4, 5 : MA110
102~105

X32-222	0-10	0-21	0-71	2-71
(A)	K . P	M	X	T . E
C21, 22	0.012	8200P	8200P	8200P
C53, 54	NO	3900P	NO	NO
C103	NO	NO	NO	0.022
C106, 107, 108	NO	NO	NO	0.022
C110	NO	NO	NO	10P
C170	NO	NO	NO	100P
C171	NO	NO	NO	47P
CF1, 2 (L72-)	0531	0531	0531	0536
D4, 5	NO	NO	NO	YES
D102	NO	NO	NO	YES
D103	NO	NO	NO	YES
W20	YES	YES	YES	NO
W14	YES	YES	YES	NO
W15	YES	YES	YES	NO
W9	YES	YES	YES	NO
D104	NO	NO	NO	YES
D105	NO	NO	NO	YES
D106	NO	NO	NO	YES
J2 (F10-)	NO	NO	NO	0759
L5 (L79-)	NO	NO	NO	0125
L104 (L39-)	NO	NO	NO	1307
L105 (L39-)	0192	0192	0192	1306
Q4	NO	NO	NO	YES
Q7, 8	NO	YES	NO	NO
Q101, 102	NO	NO	NO	YES
Q104, 105	NO	NO	NO	YES
Q106	NO	NO	NO	YES
R4	33	33	33	10
R15 (1/8W)	18K	18K	18K	15K
R16	NO	NO	NO	3.3K
R17	NO	NO	NO	2.2K
R18	NO	NO	NO	47K
R27 (1/8W)	8.2K	27K	27K	27K
R59, 60	NO	47K	NO	NO
R61, 62	NO	560	NO	NO
R70	NO	NO	NO	YES
R71	NO	NO	NO	10K
R100	NO	NO	NO	6.8K
R102	NO	NO	NO	3.3K
R104	NO	NO	NO	1M
R105	NO	NO	NO	1K
R107	NO	NO	NO	3.3K
R108	NO	NO	NO	100K
R109	NO	NO	NO	10K
R110	NO	NO	NO	3.3K
R111	NO	NO	NO	1M
R113	NO	NO	NO	100K
R114	NO	NO	NO	100K
R117	NO	NO	NO	1.2K
R118 (1/8W)	NO	NO	NO	12K
R119 (1/8W)	NO	NO	NO	12K
R120	NO	NO	NO	1.2K
R121	NO	NO	NO	82K
R122	NO	NO	NO	82K
R124	NO	NO	NO	10K
R125	NO	NO	NO	47
R126, 127	NO	NO	NO	10K
S1 (S31-)	NO	2094	NO	NO
W12	YES	YES	YES	NO
W13	YES	YES	YES	NO
W16	NO	NO	NO	YES
W17	NO	NO	NO	YES
W18	YES	YES	YES	NO
W19	NO	YES	NO	NO
W21	YES	NO	NO	NO
W22	NO	YES	NO	NO
W23	NO	NO	YES	NO
W24	NO	NO	NO	YES

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). **⚠** Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

SIGNAL LINE
REG LINE
GND LINE
+B LINE

TO X29-B/4 CN9

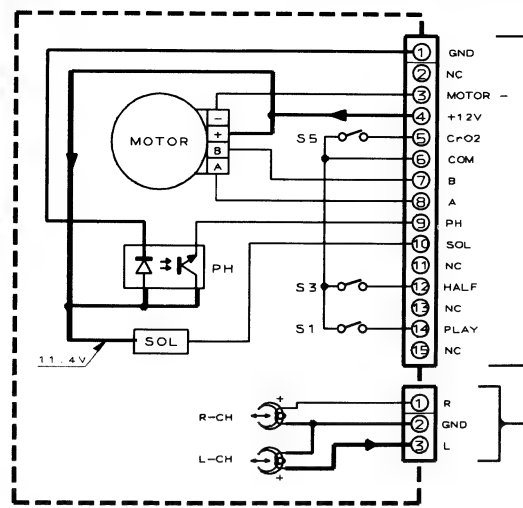


X-A3 1/4

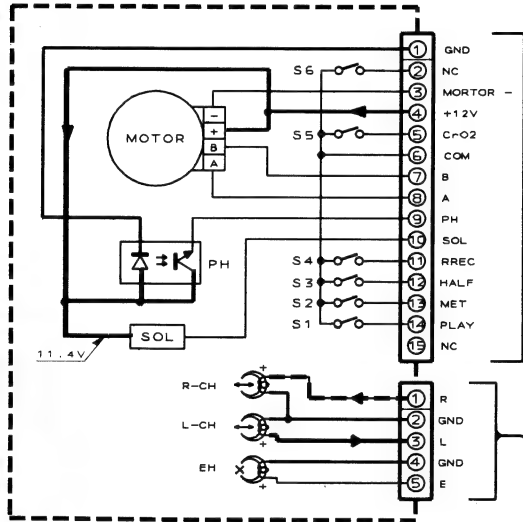
UD-300
KENWOOD

Y08-4550-10

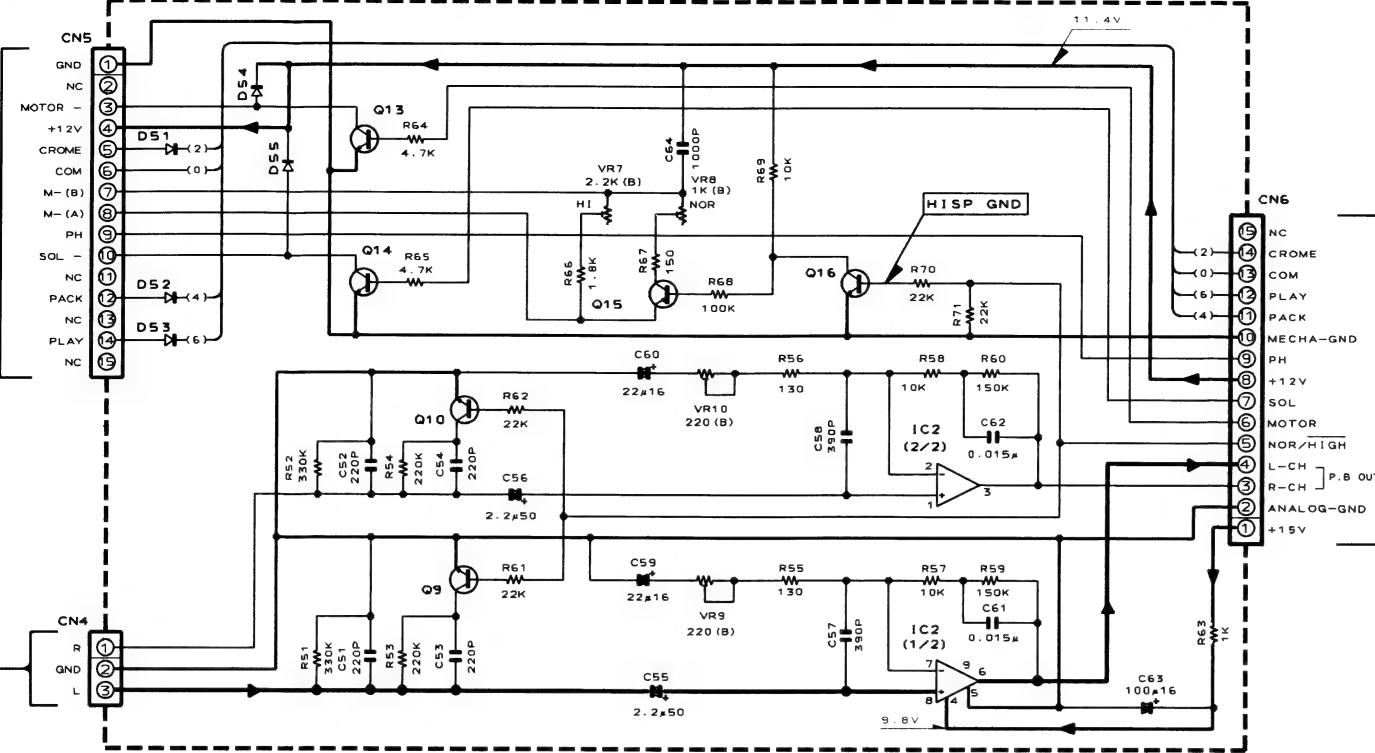
D40-1214-05 A MECHA



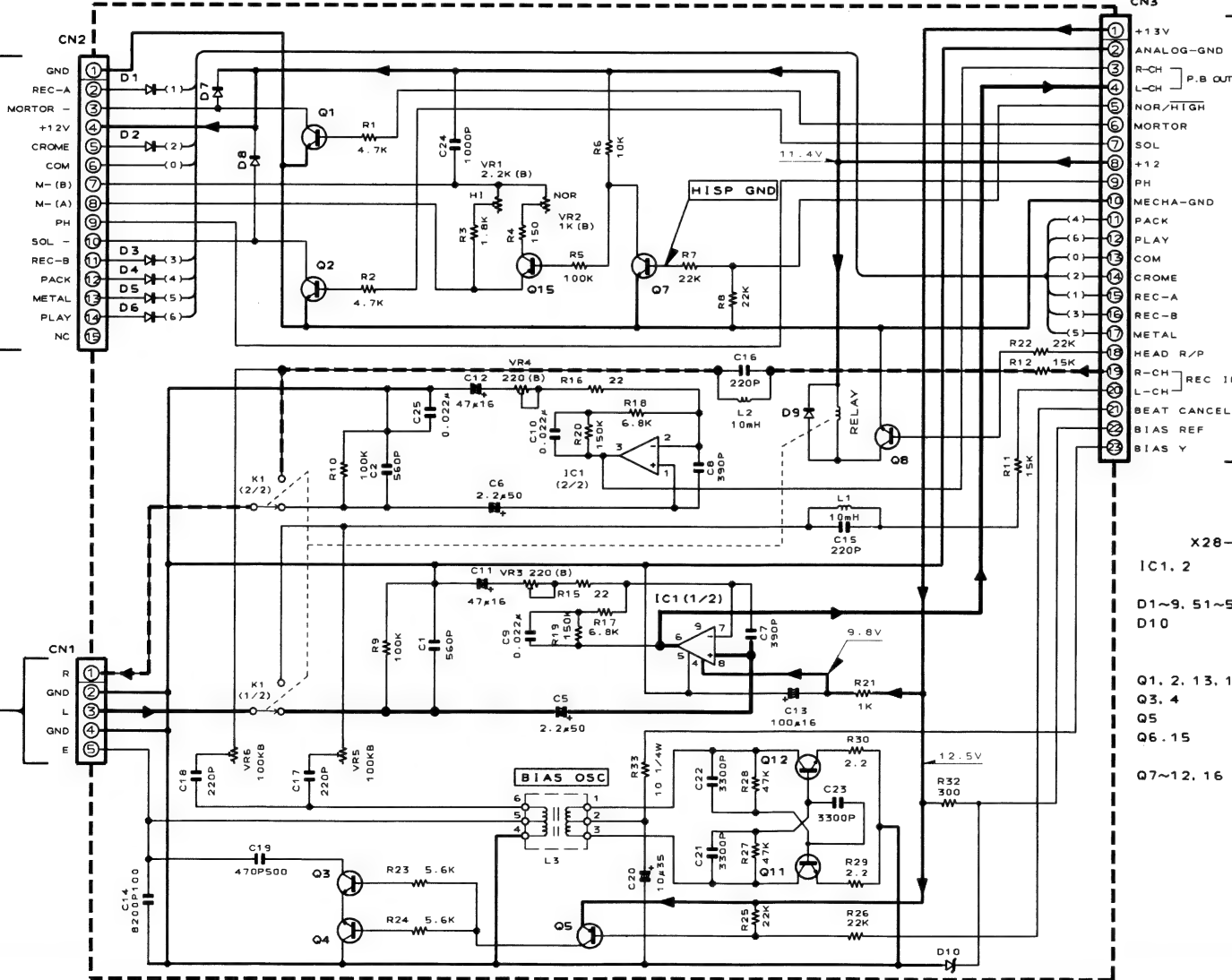
D40-1215-05 B MECHA



X28-2450-10 A/2



X28-2450-10 B/2



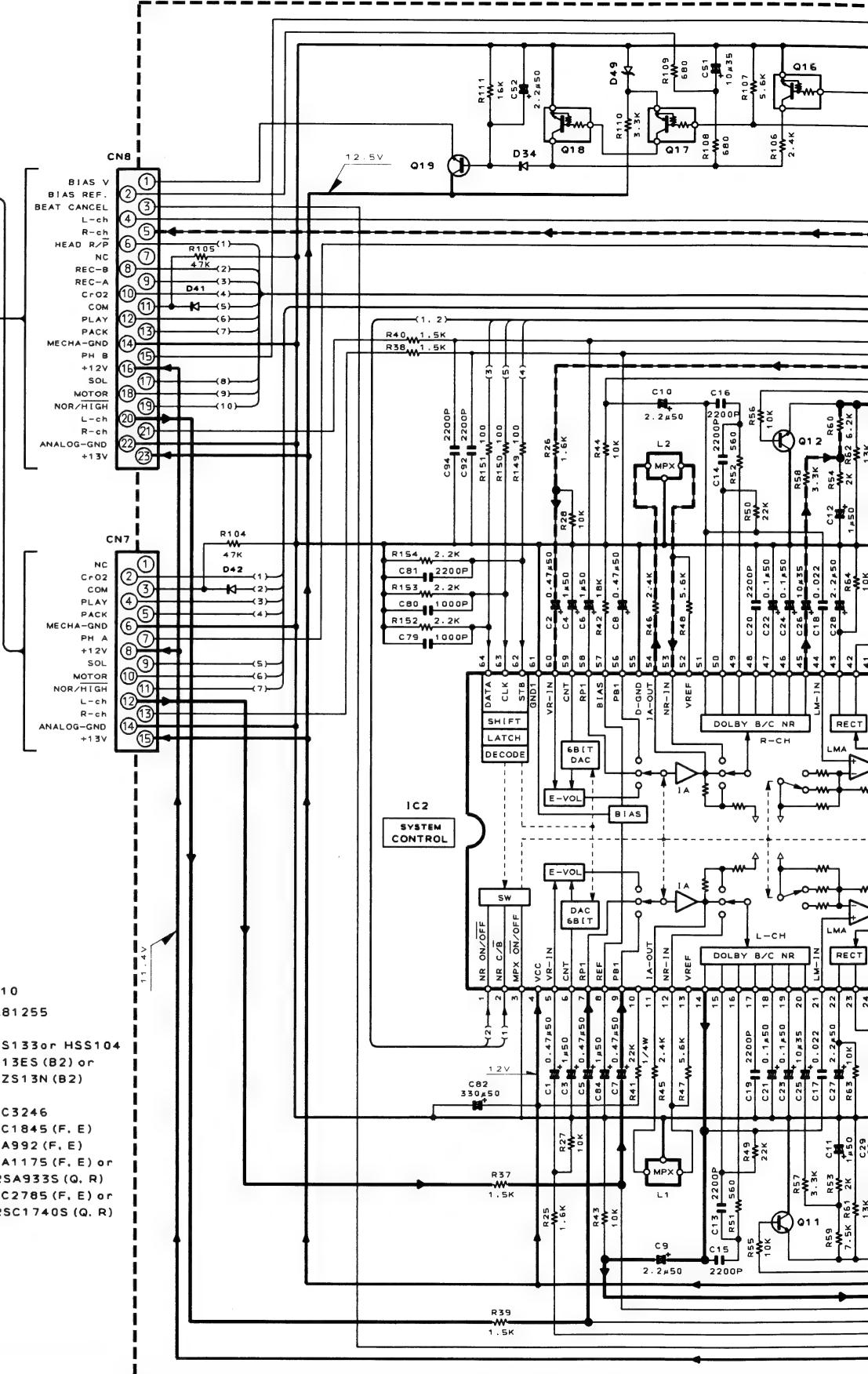
X28-2450-10

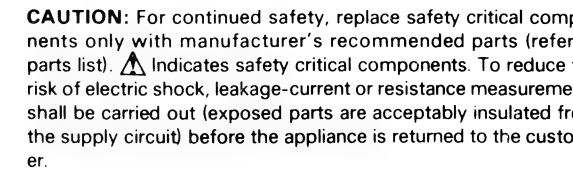
- IC1, 2 : TA81255
- D1~9, 51~55 : 1SS133 or HSS104
- D10 : RD13ES (B2) or HZS13N (B2)
- Q1, 2, 13, 14 : 2SC3246
- Q3, 4 : 2SC1845 (F, E)
- Q5 : 2SA992 (F, E)
- Q6, 15 : 2SA1175 (F, E) or 2SA933S (Q, R)
- Q7~12, 16 : 2SC2785 (F, E) or 2SC1740S (Q, R)

- IC1 : CXP82324-104Q
- IC2 : HA12157NT
- IC3 : XRU4052B or TC4052BP
- IC4 : BA10393
- IC6 : PST529D

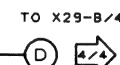
- Q6 : 2SA1175 (F, E) or 2SA933S (Q, R)
- Q7~10 : 2SC2878 (B)
- Q11, 12 : 2SC2785 (F, E) or 2SC1740S (Q, R)
- Q13, 15, 17 : RN2203 or DTA124ES
- Q14, 16, 18 : RN1203 or DTC124ES
- Q19 : 2SC3940A

(X29-230X-XX) (A/4)





Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.



_____ SIGNAL LINE
 - - - - - REC LINE
 _____ GND LINE
 _____ +B LINE
 - - - - - -B LINE

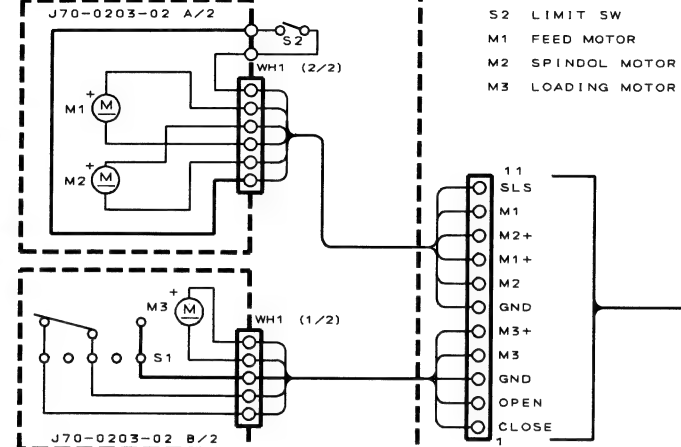
Y08-4550-10

UD-300
KENWOOD

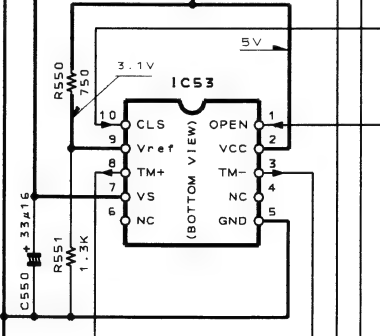
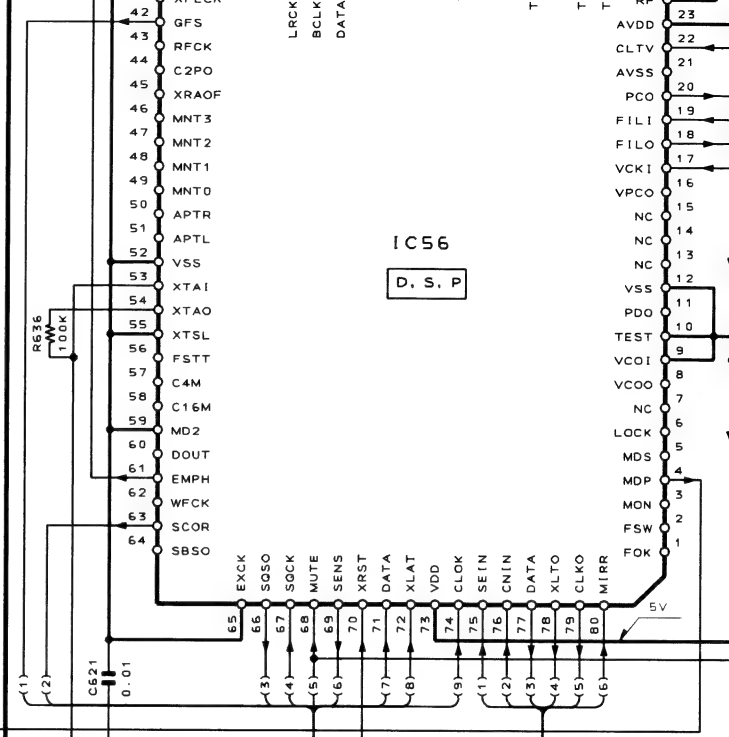
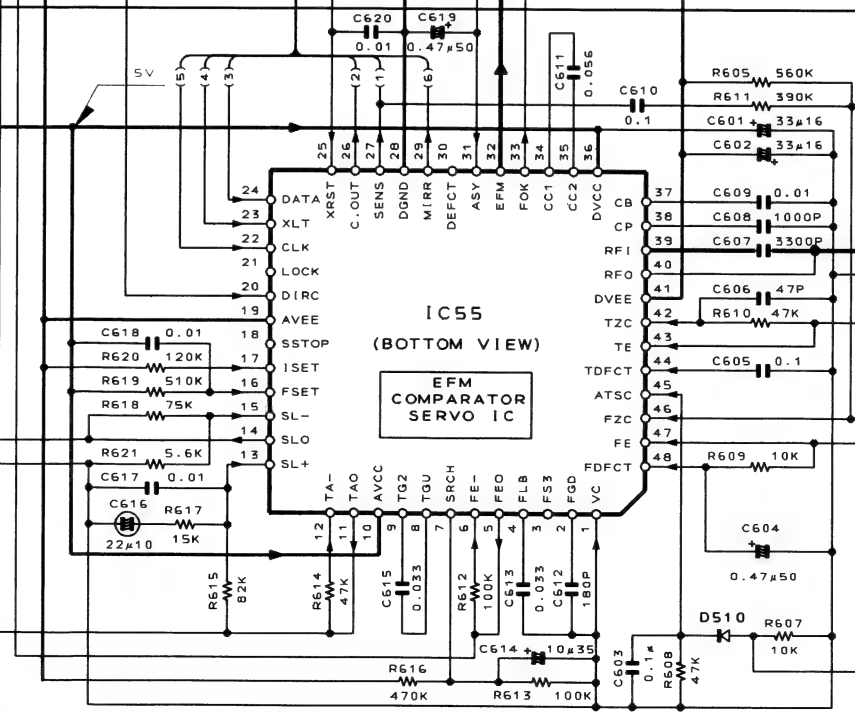
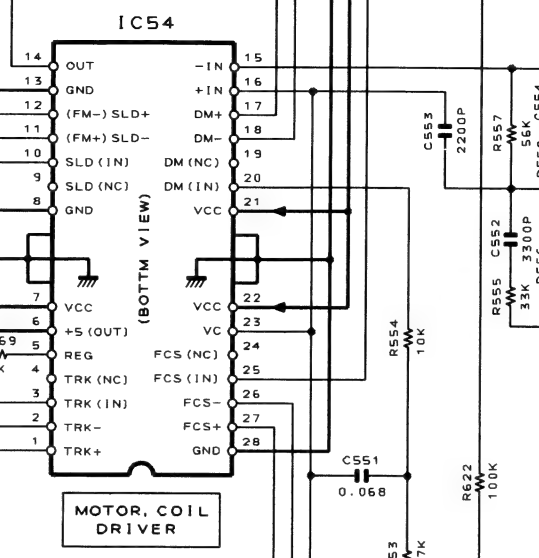
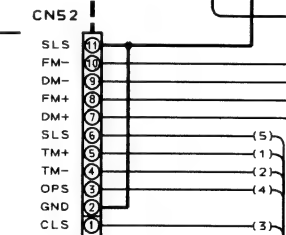
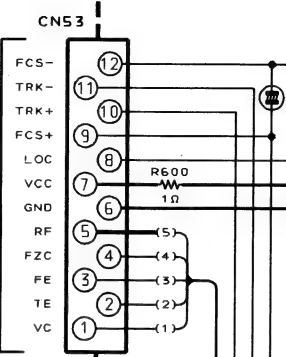
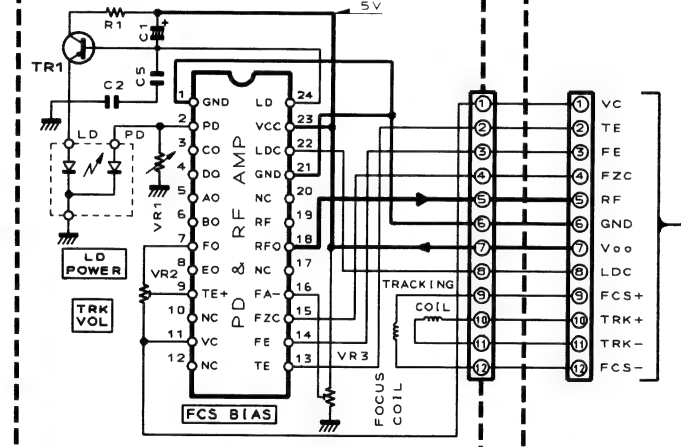
(X32-222X-XX)

X92-1650-31

X25-4570-31



PICKUP KSS-240A T25-0013-05



IC5
IC5
IC5
IC5
IC5

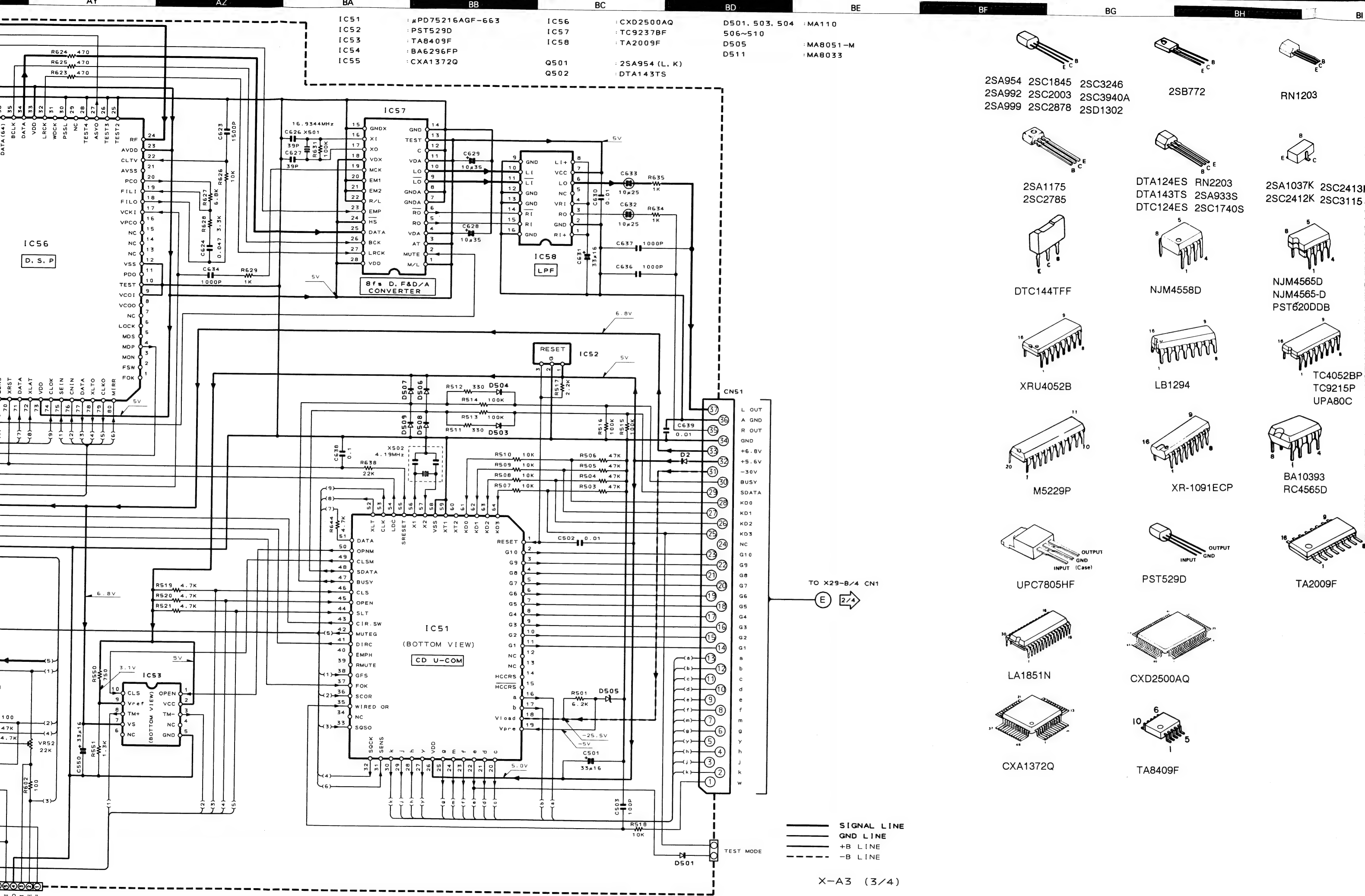
16.9344MHz
C626 X501
39P
C627
R631
100K
39P

R644
4.7K
51

49
48
47
46
45
44
43
42
41
40
39
38
37
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1

4
3
2
1

4
3
2
1

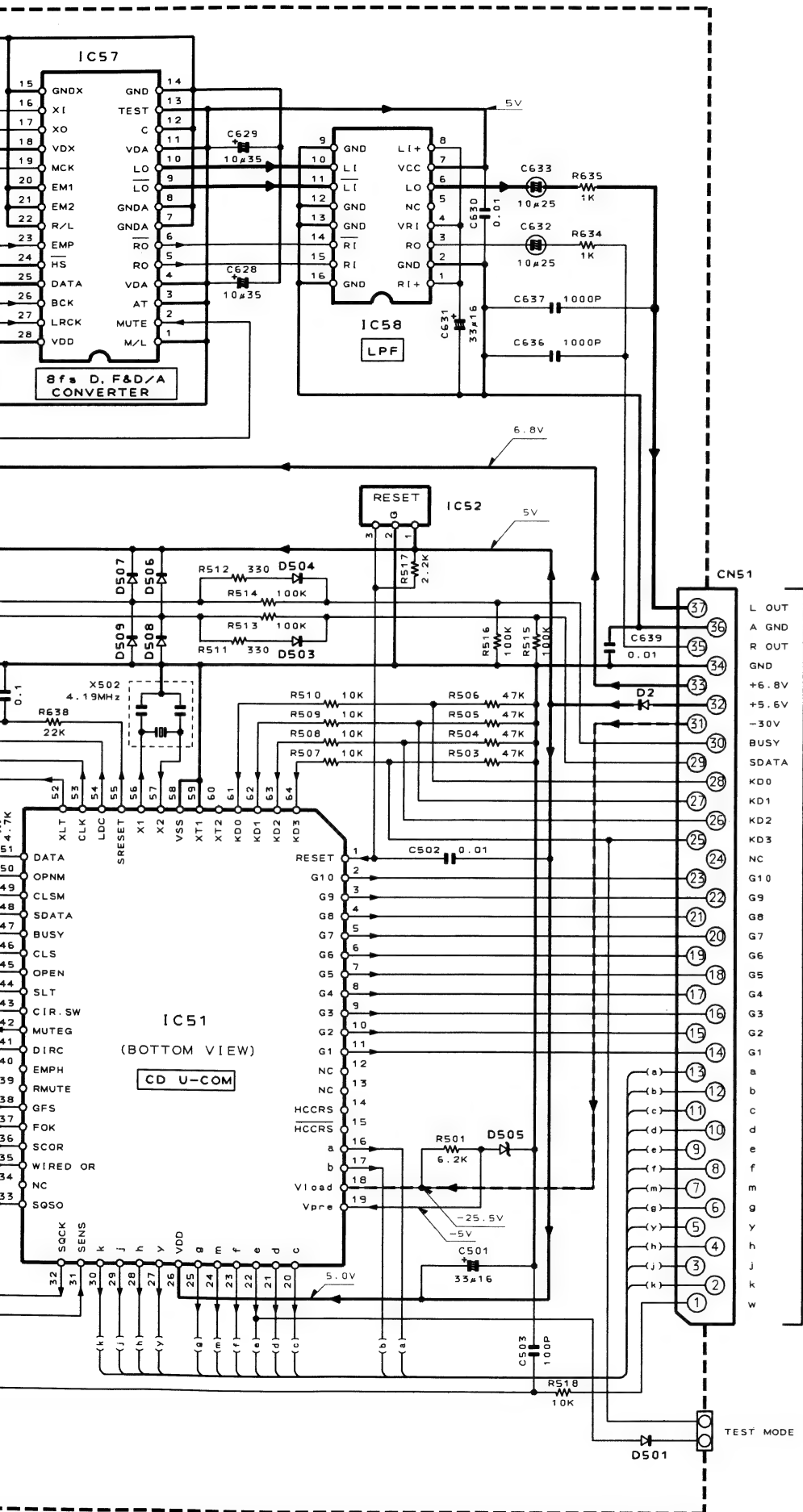


C51 : PD75216AGF-663
 C52 : PST529D
 C53 : TA8409F
 C54 : BA6296FP
 C55 : CXA1372Q

IC56 : CXD2500AQ
 IC57 : TC9237BF
 IC58 : TA2009F

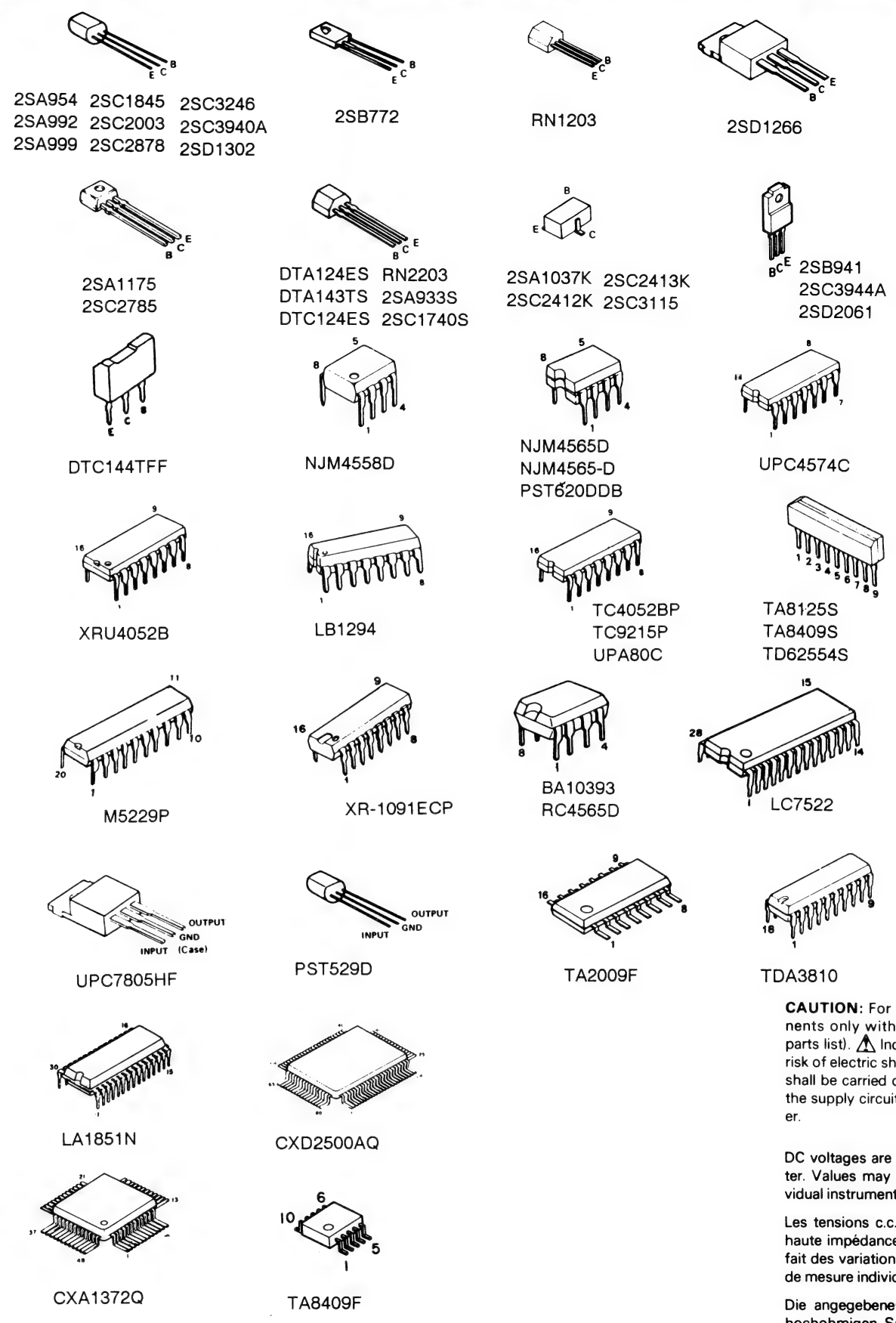
D501, 503, 504 : MA110
 506~510 : MA8051-M
 D505 : MA8033
 D511 : MA8033

Q501 : 2SA954 (L, K)
 Q502 : DTA143TS



— SIGNAL LINE
 --- GND LINE
 ... +B LINE
 ... -B LINE

X-A3 (3/4)



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

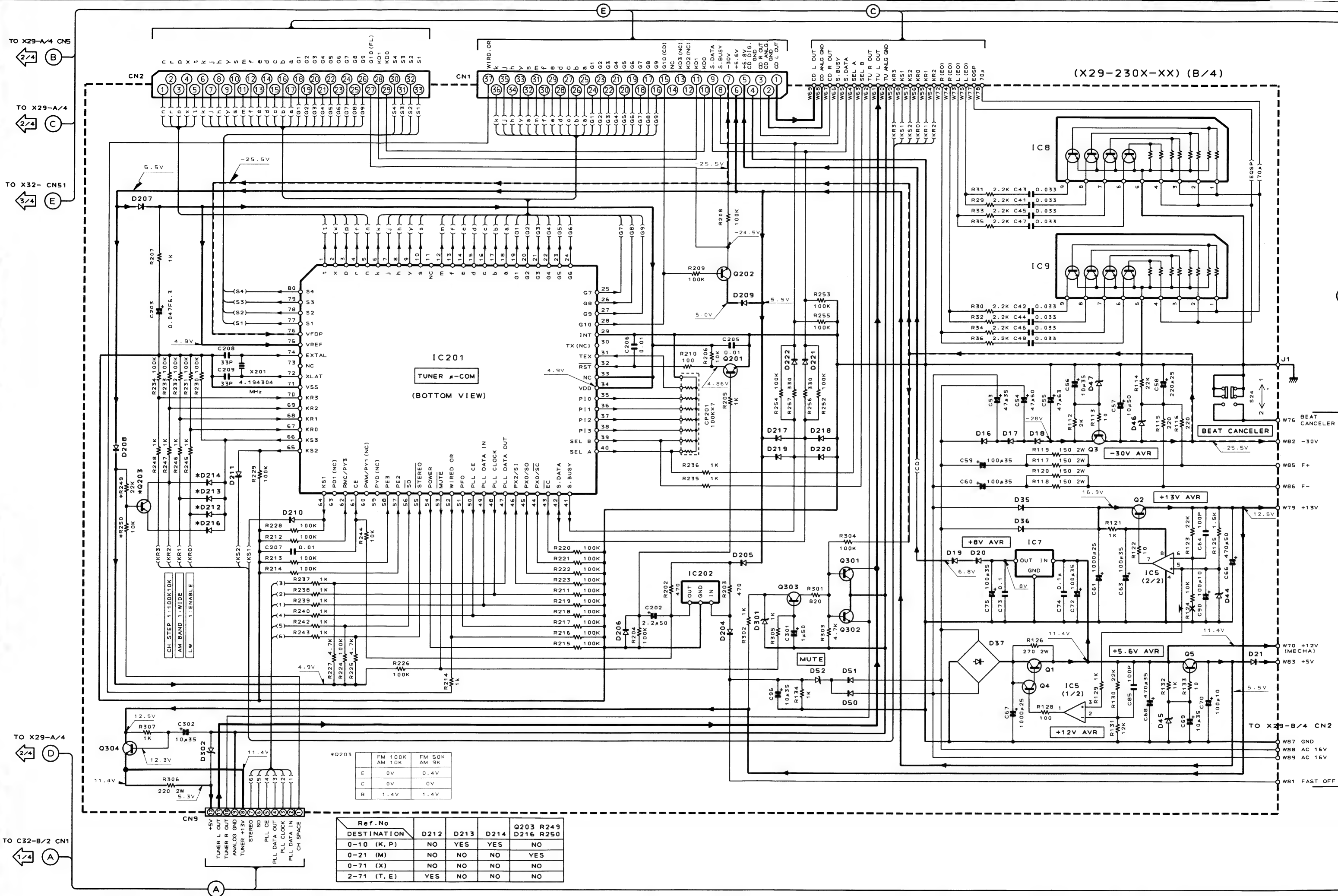
DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

UD-300
KENWOOD

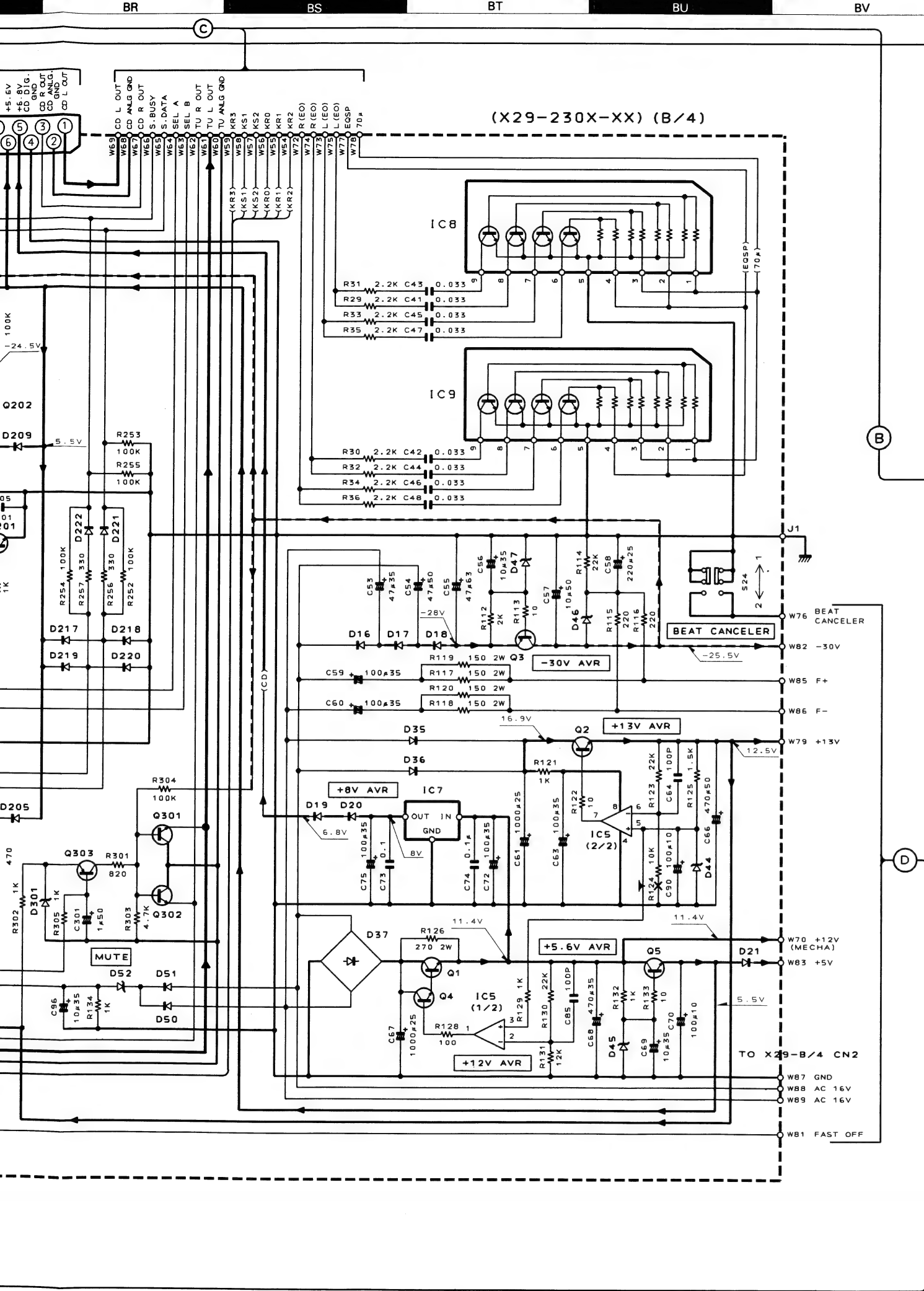
Y08-4550-10



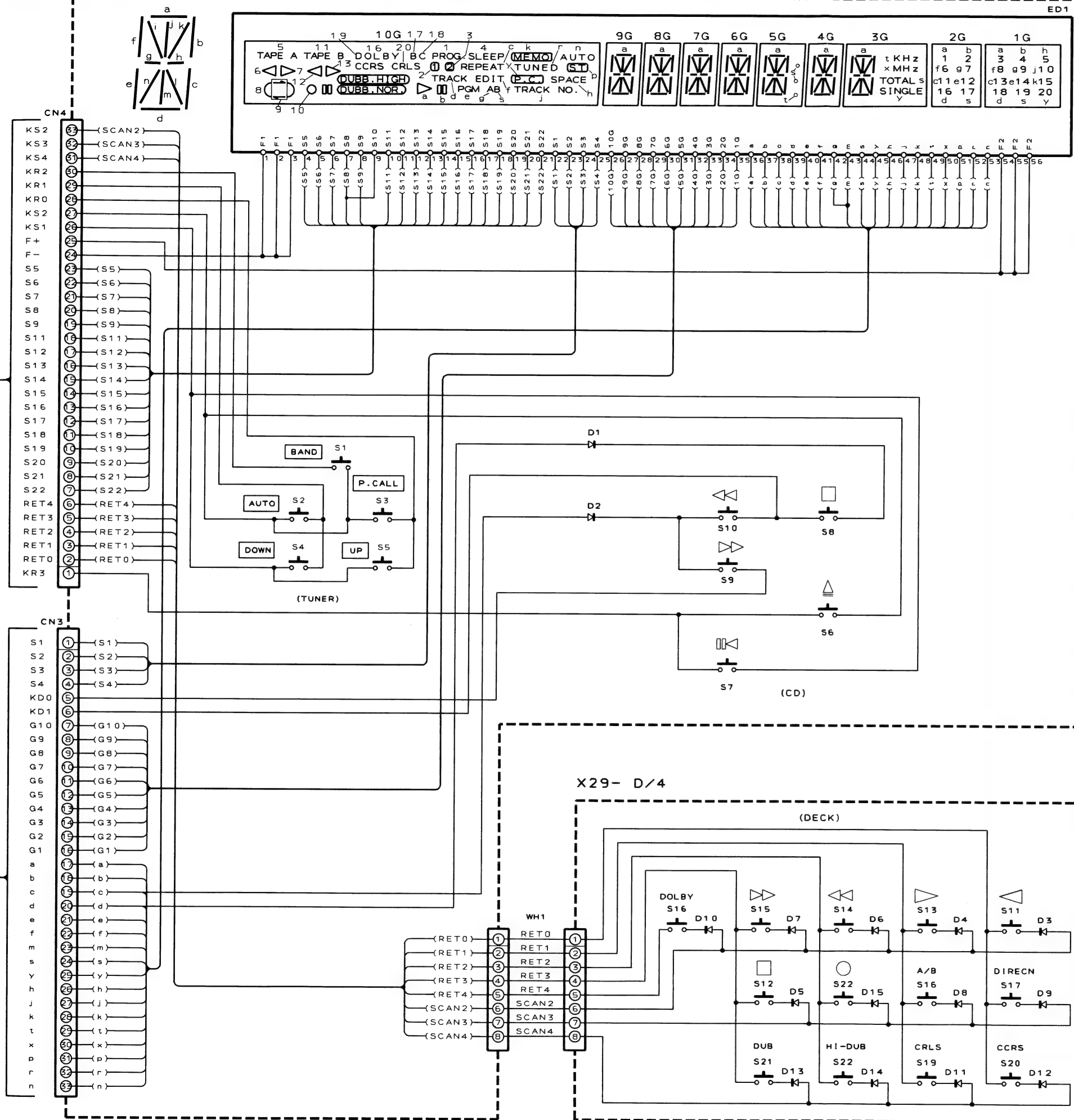
IC201
TUNER #COM
(BOTTOM VIEW)

Ref.No	FM 100K		FM 50K	
	AM 10K	AM 9K	AM 10K	AM 9K
E	0V	0.4V		
C	0V	0V		
B	1.4V	1.4V		

Ref.No	D212	D213	D214	Q203 R249
DESTINATION				D216 R250
0-10 (K, P)	NO	YES	YES	NO
0-21 (M)	NO	NO	NO	YES
0-71 (X)	NO	NO	NO	NO
2-71 (T, E)	YES	NO	NO	NO



X29- (C/4)



X29-230X-XX (B/4)

IC5 : RC4565D or NJM4565D
 IC7 : μPC7808HF
 IC8, 9 : TD62554S
 IC201 : CXP-50116-380Q
 IC202 : PST529C

Q1, 2 : 2SD2061
 Q3 : 2SA999 (E, F)
 Q4 : 2SC2785 (E, F) or 2SC1740S (Q, R)
 Q5 : 2SC3944A
 Q201, 202304 : 2SC1740S (Q, R) or 2SC3311A (Q, R)
 or 2SC2458 (Y, GR) or 2SC2785 (F, E)
 Q203, 303 : 2SA933S (Q, R) or 2SA1309A (Q, R)
 or 2SA1048 (Y, GR) or 2SA1175 (F, E)
 Q301, 302 : 2SD1302

D16~18, 50, 51 : 1SS133 or HSS104
 D19, 20, 35, 36 : 1SR139-100 or S5566B
 D37 : RBV-402LFA
 D44 : RD3.9ES (B2) or HZS3.9N (B2)
 D45 : RD6.2ES (B2) or HZS6.2N (B2)
 D46 : RD7.5JS (B2) or HZS7.5S (B2)
 D47 : RD30ES (B) or HZS30N (B)
 D52 : RD6.8ES (B2) or HZS6.8S (B2)
 D204~214 : HSS104 or 1SS133
 216~222 :
 D301 : RD3.3ES (B2) or HZS3.3N (B2)
 D302 : RD5.1ES (B2) or HZS5.1N (B2)

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (parts list). Δ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the user.

DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre haute impédance. Les valeurs peuvent différer légèrement à cause des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei sind die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

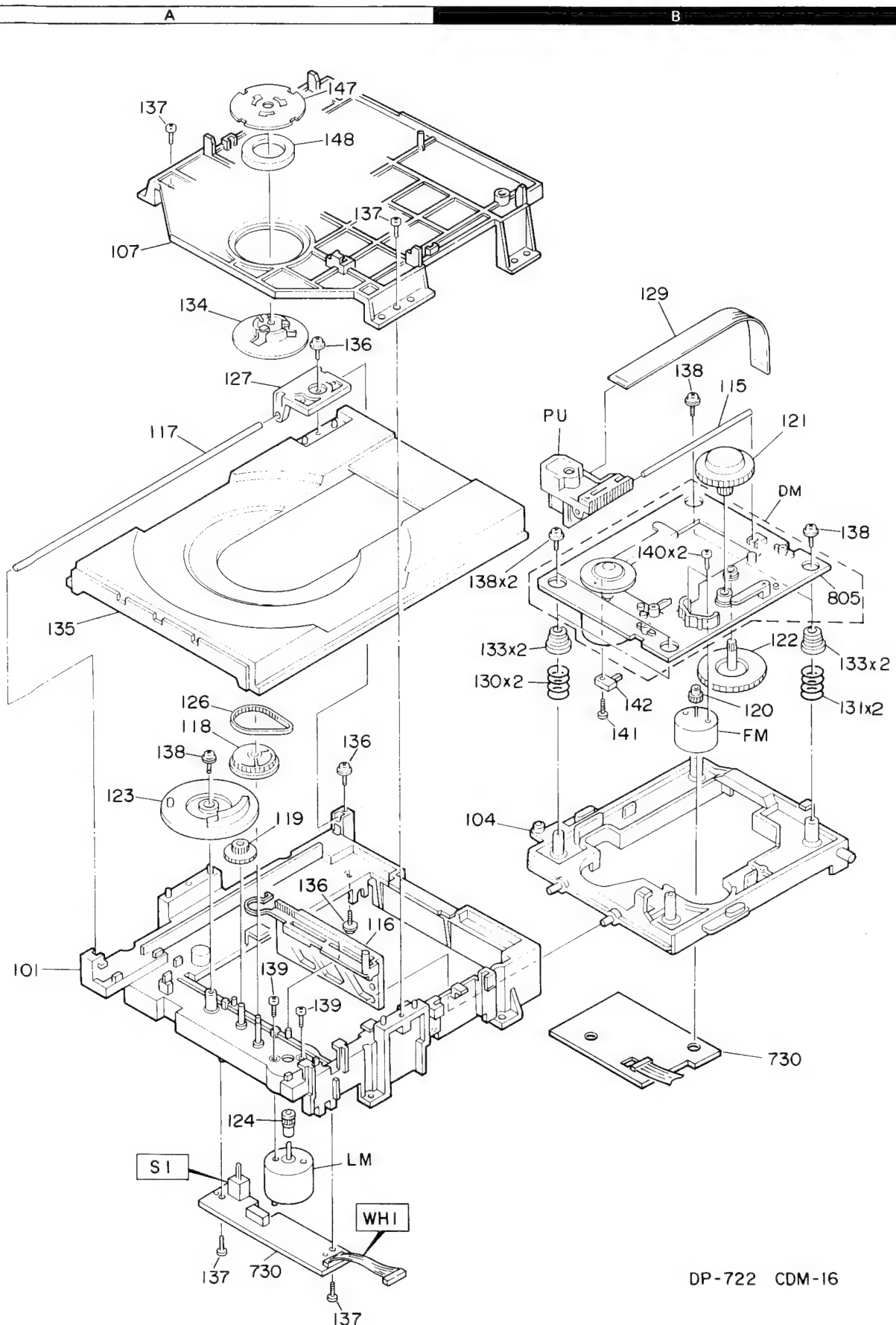
— SIGNAL LINE
 — GND LINE
 — +B LINE
 - - - -B LINE

X-A3 (4/4)

Y08-4550-10

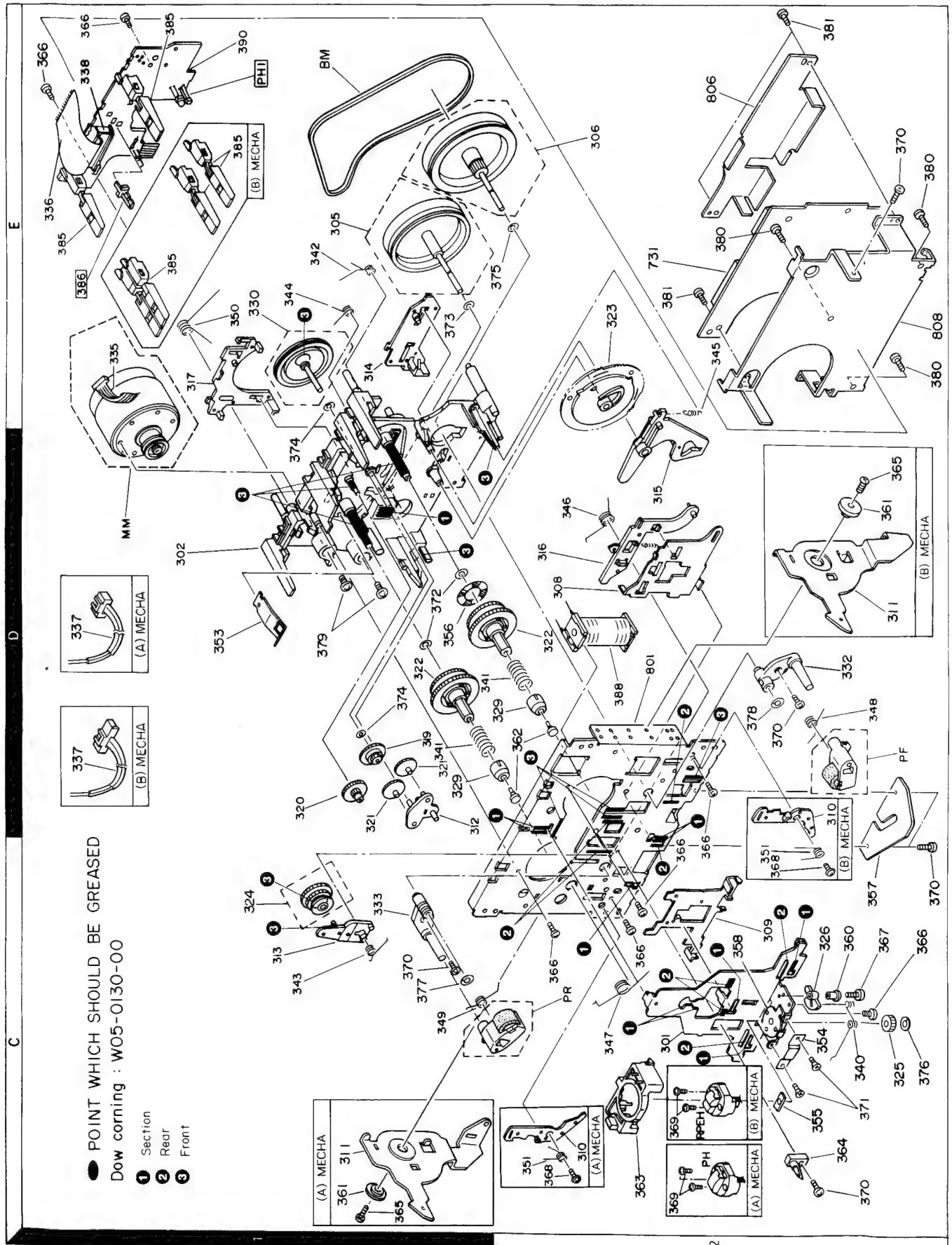
UD-300
KENWOOD

EXPLODED VIEW (MECHANISM)

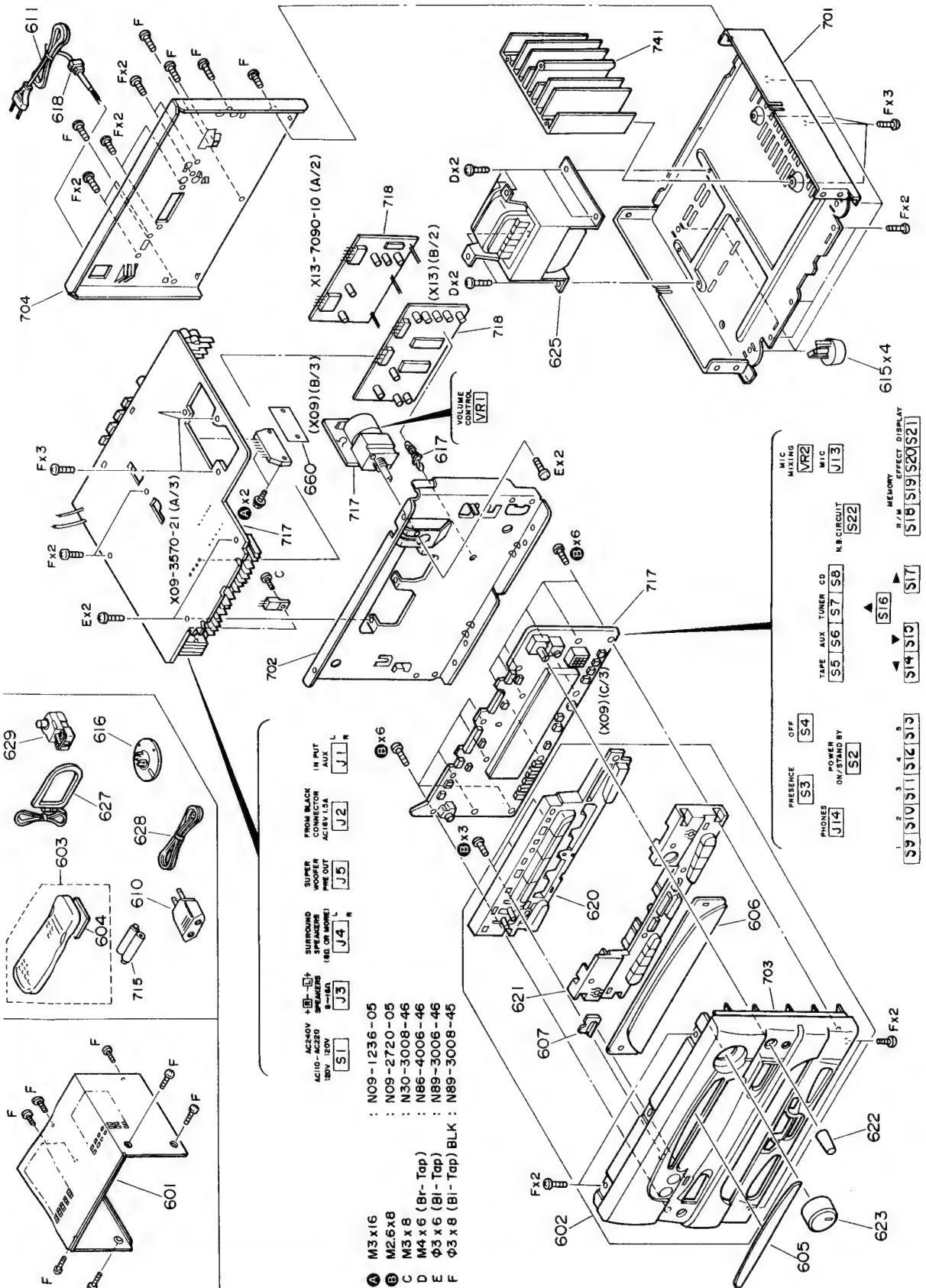


DP-722 CDM-16

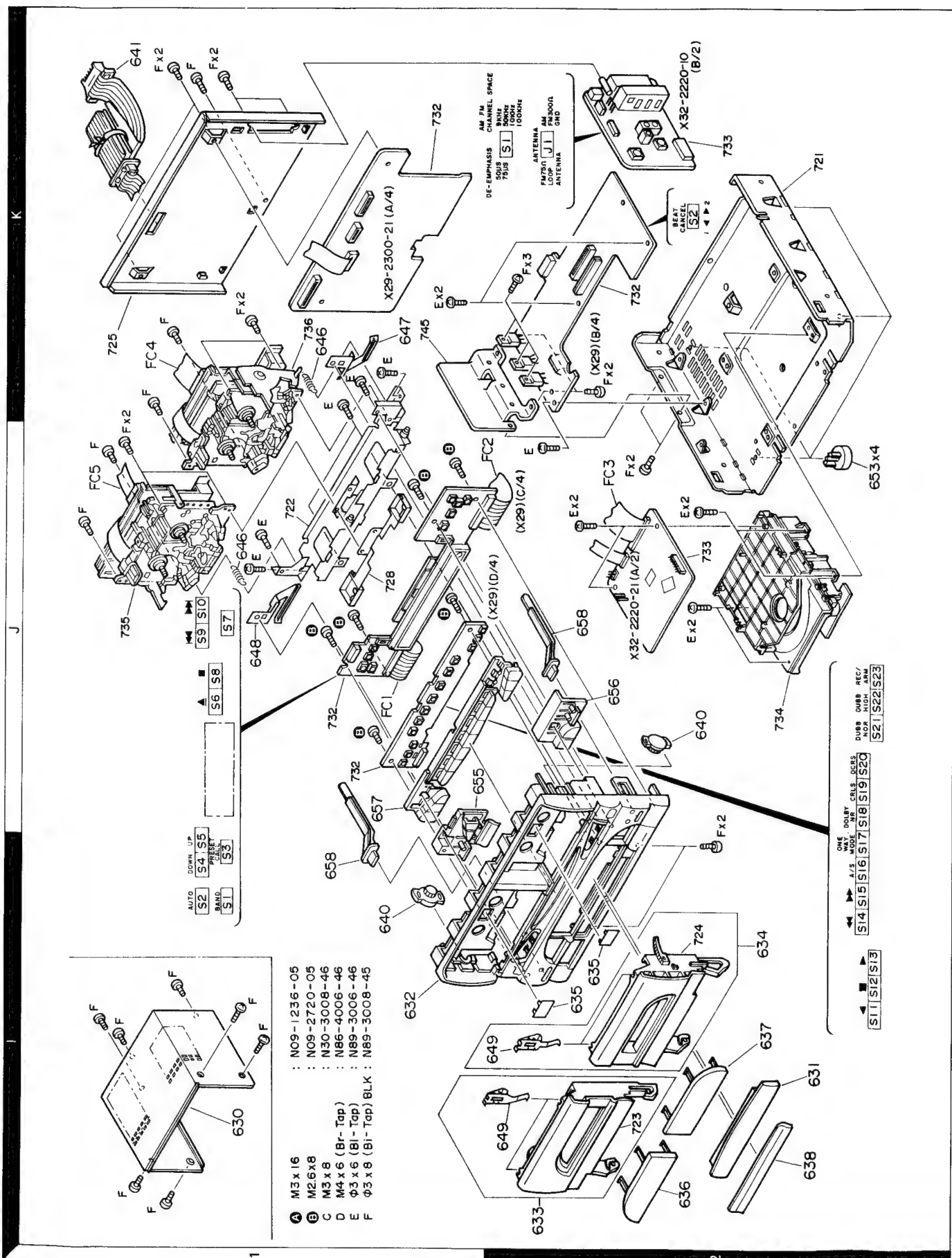
EXPLODED VIEW (MECHANISM UNIT)



EXPLODED VIEW (UNIT)



EXPLODED VIEW



Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

NO.1

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向備考
A-A3				
601	1F	A01-2922-01	METALLIC CABINET	KPTE
602	2F	A60-0180-12	PANEL ASSY	MX
603	2F	A60-0181-12	PANEL ASSY	
604	1F	X94-1010-11	REMOTE CONTROL ASSY UNIT	
	1F	A09-0126-03	BATTERY COVER	
605	2F	B03-2764-04	DRESSING PLATE	
606	2F	B10-1906-03	FRONT GLASS	
607	2F	B12-0190-04	INDICATOR	
-	-	B46-0092-13	WARRANTY CARD	
-	-	B46-0096-33	WARRANTY CARD	
-	-	B46-0121-13	WARRANTY CARD	
-	-	B46-0122-23	WARRANTY CARD	
-	-	B46-0143-13	WARRANTY CARD	
-	-	B60-0751-00	INSTRUCTION MANUAL (ENGLISH)	
-	-	B60-0752-00	INSTRUCTION MANUAL (FRENCH)	
-	-	B60-0753-00	INSTRUCTION MANUAL (GERMAN)	
-	-	B60-0754-00	INSTRUCTION MANUAL (DUTCH)	
-	-	B60-0755-00	INSTRUCTION MANUAL (ITALIAN)	
-	-	B60-0756-00	INSTRUCTION MANUAL (CHINESE)	
-	-	B60-0757-00	INSTRUCTION MANUAL (SPANISH)	
-	-	B60-0758-00	INSTRUCTION MANUAL (ARABIC)	
610	1F	E03-0115-05	AC PLUG ADAPTER	M
611	1H	E30-2274-15	AC POWER CORD	KP
611	1H	E30-2275-15	AC POWER CORD	X
611	1H	E30-2276-15	AC POWER CORD	T
611	1H	E30-2277-15	AC POWER CORD	ME
-	-	H50-0241-14	ITEM CARTON CASE	K
-	-	H50-0242-04	ITEM CARTON CASE	TE
-	-	H50-0313-14	ITEM CARTON CASE	PMX
-	-	H10-5263-01	POLYSTYRENE FOAMED FIXTURE	KPMX
-	-	H10-5264-01	POLYSTYRENE FOAMED FIXTURE	KPMX
-	-	H10-5294-12	POLYSTYRENE FOAMED FIXTURE (L)	TE
-	-	H10-5295-12	POLYSTYRENE FOAMED FIXTURE (R)	TE
-	-	H13-0086-04	CARTON BOARD	KPMX
-	-	H25-0232-04	PROTECTION BAG (235X350X0.03)	E
-	-	H25-0632-24	PROTECTION BAG	KPMX
-	-	H25-0651-04	PROTECTION BAG (0232 PRINTED)	T
-	-	H25-0671-04	PROTECTION BAG	
615	2H	J02-0370-05	FOOT	MX
616	1G	J19-2815-04	ANTENNA HOLDER	
617	1G	J19-3329-05	UNIT HOLDER	
618	1H	J42-0083-05	POWER CORD BUSHING	
620	2F	K29-4351-02	KNOB INPUT SELECTOR	
621	2F	K29-4352-02	KNOB GE CONTROL	
622	2F	K29-4357-04	KNOB MIC MIXING	
623	2F	K29-4358-04	KNOB VOLUME CONTROL	
625	2H	L07-0465-15	POWER TRANSFORMER	KP
625	2H	L07-0466-15	POWER TRANSFORMER	M
625	2H	L07-0467-15	POWER TRANSFORMER	T
625	2H	L07-0468-15	POWER TRANSFORMER	E
625	2H	L07-0469-15	POWER TRANSFORMER	X

L:Scandinavia K:USA P:Canada
Y:PX(Far East, Hawaii) T:England E:Europe
Y:AAFE(S/Europe) X:Australia M:Other Areas
△ indicates safety critical components

Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

NO.2

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向備考
B	1G, 2G	N09-2720-05	TAPTITE SCREW (2.6X8)	
D	1H	N86-4006-46	BINDING HEAD TAPTITE SCREW	
E	1G, 2G	N89-3006-46	BINDING HEAD TAPTITE SCREW	
F	1F, 1H	N89-3008-45	BINDING HEAD TAPTITE SCREW	
627	1G	T90-0174-05	LOOP ANTENNA	
628	1G	T90-0175-05	T TYPE ANTENNA	TE
629	1G	T90-0185-05	ANTENNA ADAPTOR	
X-A3				
630	1I	A01-2922-01	METALLIC CABINET	
631	2I	A29-0310-03	CD TRAY PANEL	KPMX
632	2I	A60-0180-11	PANEL	TE
632	2I	A60-0182-11	PANEL	KPMX
633	2I	A53-1336-23	CASSETTE HOLDER ASSY	A
633	2I	A53-1340-23	CASSETTE HOLDER ASSY	TE
634	2I	A53-1338-23	CASSETTE HOLDER ASSY	A B
635	2I	B07-1720-04	ESCUTCHEON	
636	2I	B10-1914-03	FRONT GLASS	A B
637	2I	B10-1915-03	CASSETTE HOLDER	
638	2I	B10-1916-03	FRONT GLASS	
-	-	B46-0122-23	WARRANTY CARD	E
-	-	B46-0143-13	WARRANTY CARD	T
640	1I, 2J	D39-0198-05	DAMPER	
641	1K	E30-2686-05	CORD WITH CONNECTOR POWER CORD	
FC1, 2	1J, 2J	E35-0300-05	FLAT CABLE X29CN2-CN3, CN4-CN5	
FC3	2J	E35-0301-05	FLAT CABLE X29(CN1)-X92(CN5)	
FC4	1K	E35-0302-05	FLAT CABLE X29(CN8)-X92(CN3)	
FC5	1J	E35-0305-05	FLAT CABLE X29(CN7)-X92(CN6)	
646	1J, 1K	G01-3461-14	EXTENSION SPRING	
647	1K	G02-0998-14	FLAT SPRING	B
648	1J	G02-0999-14	FLAT SPRING	A
649	2I	G02-1001-24	FLAT SPRING	
-	-	H50-0241-14	ITEM CARTON CASE	K
-	-	H50-0301-04	ITEM CARTON CASE	TE
-	-	H50-0313-14	ITEM CARTON CASE	PMX
-	-	H10-5263-01	POLYSTYRENE FOAMED FIXTURE	KPMX
-	-	H10-5264-01	POLYSTYRENE FOAMED FIXTURE	KPMX
-	-	H10-5270-12	POLYSTYRENE FOAMED FIXTURE (L)	TE
-	-	H10-5271-12	POLYSTYRENE FOAMED FIXTURE (R)	TE
-	-	H20-0574-04	PROTECTION COVER	M
-	-	H25-0232-04	PROTECTION BAG (235X350X0.03)	E
-	-	H25-0651-04	PROTECTION BAG (0232 PRINTED)	T
-	-	H25-0672-04	PROTECTION BAG	KPXT
653	2J	J02-0370-05	FOOT	
655	1J	K29-4360-13	KNOB DOWN, UP, TUNING	
656	2J	K29-4361-03	KNOB STOP, PAUSE	
657	1J	K29-4362-13	KNOB CASSETTE CONTROL	
658	1I, 2J	K29-4363-14	KNOB EJECT	
B	1J	N09-2720-05	TAPTITE SCREW (2.6X8)	
E	1I, 1J	N89-3006-46	BINDING HEAD TAPTITE SCREW	
F	1J, 1K	N89-3008-45	BINDING HEAD TAPTITE SCREW	

L:Scandinavia K:USA P:Canada
Y:PX(Far East, Hawaii) T:England E:Europe
Y:AAFE(S/Europe) X:Australia M:Other Areas
△ indicates safety critical components

PARTS LIST

UD-300

PARTS LIST

NO.4

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
C139,140 C141,142 C143 C144 C145,146	*	CK45FF1H103Z C90-1961-05 CK45FB1H102K C90-3231-05 CK45FF1H103Z	CERAMIC 0.010UF Z 3300UF 45WV 1000PF K 3.3UF 25WV 0.010UF Z	MX	
C147 C148 C149 C150 C151,152	*	C90-3231-05 C90-3231-05 CK45FF1H103Z C91-0769-05 C90-3213-05	ELECTR MYLAR 1000PF J 0.010UF Z CERAMIC 0.01UF K 680UF 6.3WV		
C154 C155 C156 C157 C158		C91-0769-05 C91-0753-05 C91-0757-05 C90-3248-05 C91-0749-05	CERAMIC CHIP C 470PF K 1000PF K 0.1UF 50WV 220PF K	MX MX MX MX MX	
C159 C160 C161 C162,163 C164,165	*	C91-0757-05 C90-3224-05 C90-3240-05 C90-3219-05 C91-0757-05	CERAMIC 1000PF K ELECTR 4.7UF 16WV 2.2UF 35WV 33UF 10WV 1000PF K	MX MX MX MX MX	
C166,167 C168 C169 C170 C171,172	*	C91-0769-05 C90-3240-05 CK45FF1H223Z CE04LW1V100M CK45FF1H103Z	CERAMIC 0.01UF K ELECTR 2.2UF 35WV CERAMIC 0.022UF Z 10UF 35WV 0.010UF Z		
J1 J2 J3 J4 J5	*	E63-0040-05 E08-1509-05 E70-0013-05 E63-0041-05 E13-0138-05	PHONO JACK AUX RECTANGULAR RECEPTACLE BLACK LOCK TERMINAL BOARD SPEAKER PHONO JACK SURROUND SPEAKER PHONO JACK SUPER WOOFER	MX	
J13,14 J14	*	E11-0234-05 E11-0234-05	PHONE JACK MCI HEAD PHONE PHONE JACK HEAD PHONE	MX KYTE	
660 F1 F1 F2,3 F2,3 F4 F4 F5 F5 F6 F6,7 F6,7 CN9-12 CN9,10 J7,8	1G	F20-1352-05 F53-0022-05 F53-0036-05 F53-0016-05 F53-0030-05 F53-0022-05 F53-0036-05 F53-0020-05 F53-0034-05 F05-1623-05 F06-3027-05 F05-1623-05 J13-0075-05 J13-0075-05 J21-5159-04	INSULATING SHEET FUSE FUSE FUSE FUSE FUSE FUSE FUSE FUSE FUSE (SEM0) (250V T1.6A) FUSE (UL) (250V 3A) FUSE (SEM0) (250V T1.6A) FUSE CLIP FUSE CLIP MOUNTING HARDWARE	MXTE KP MXTE KP MXTE KP MXTE KP MXTE KP M M KP XTE	
L1,2 L3,4 X1 X2 A C	1G 1G	L39-0085-05 L40-1011-17 L78-0244-05 L78-0267-05 N09-1236-05 N30-3008-46	PHASE-COMPENSATION COIL SMALL FIXED INDUCTOR(100UH,K) RESONATOR 4.19MHZ TAPPING SCREW (3X16) PAN HEAD MACHIN SCREW		

NO.3

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
LS-A3					
-		A21-2274-03	FRONT PANEL ASSY		
-		B30-5120-08	OUTSIDE CONNECTING WIRE	KTE PMX	
-		H51-0137-08 H51-0138-08 H10-6011-08 H21-1071-08	CARTON CASE CARTON CASE POLYSTYRENE FOAMED FIXTURE PROTECTION SHEET		
SP1 SP2		T10-0546-05 T03-0398-05	LOUDSPEAKER(WOOFER) LOUDSPEAKER(TWEETER)		
AUDIO UNIT(X09-3570-10-K,P,Q-21:M,0-71:X,2-71:T,E)					
D33		B30-1291-05	LED(LN210PSLX(V)-(TA4))	TE KPMX KPMX	
C1 -6 C1,2 C5,6 C7,8 C9,10		CC45FSL1H221J CC45FSL1H221J CC45FSL1H221J CE04LW1V100M CF92FV1H683J	CERAMIC 220PF J CERAMIC 220PF J CERAMIC 10UF 35WV MF 0.068UF J		
C11,12 C13,14 C15-18 C19,20 C21-24		CF92FV1H223J CF92FV1H243J CF92FV1H104J CE04LW1A221M CF92FV1H104J	MF 0.022UF J MF 0.024UF J MF 0.10UF J ELECTR 220UF 10WV MF 0.10UF J		
C25,26 C27,28 C29,30 C31,32 C33,34		CQ92FM1H472J CE04LW1V100M CK45FB1H102K CE04LW1H181J CC45FSL1H270J	MYLAR 4700PF J ELECTR 10UF 35WV CERAMIC 1000PF K CERAMIC 180PF J CERAMIC 27PF J		
C100,101 C102,103 C104,105 C106,107 C108		CK45FF1H103Z CC45FSL1H221J CE04LW1V487M CE04LW1H101M CK45FF1H103Z	CERAMIC 0.010UF Z CERAMIC 220PF J ELECTR 4.7UF 35WV ELECTR 1.0UF 50WV CERAMIC 0.010UF Z		
C109 C110 C111 C112,113 C114		CK45FB1H471K CK45FB1H3R3M CE04LW1H100M CE04LW1H101M CE04LW1H100M	CERAMIC 470PF K NP-ELEC 3.3UF 50WV ELECTR 10UF 50WV ELECTR 100UF 50WV ELECTR 10UF 50WV		
C115 C116 C117,118 C119 C120,121		CE04LW0J331M CE04LW1V100M CE04LW1A221M CE04LW1V100M CE04LW1V102M	ELECTR 330UF 6.3WV ELECTR 10UF 35WV ELECTR 220UF 10WV ELECTR 10UF 35WV ELECTR 1000UF 35WV		
C122,123 C124,125 C126,127 C128 C129,130		CK45FF1H103Z CE04LW1H101M CQ92FV1H103J CK45FB1H471K CE04LW1E471M	CERAMIC 0.010UF Z ELECTR 100UF 10WV MYLAR 0.010UF J CERAMIC 470PF K ELECTR 470UF 25WV		
C131,132 C133,134 C135,136 C137 C138		CK45FF1H103Z CE04LW1V100M CE04LW1H470M CE04LW1V101M CE04EM1C471M	CERAMIC 0.010UF Z ELECTR 10UF 35WV ELECTR 47UF 50WV ELECTR 100UF 35WV ELECTR 470UF 16WV		

✱ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

NO.5

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向備考
F	1C	N89-3008-45	BINDING HEAD TAPITTE SCREEN	
CP1		R90-0854-05	MULTI-COMP 4.7KX3 J 1/6W	
CP2		R90-0487-05	MULTI-COMP 47KX4 J 1/6W	
CP3		R90-0851-05	MULTI-COMP 100KX11 J 1/6W	
CP4		R90-0487-05	MULTI-COMP 47KX4 J 1/6W	
R43 , 44		R014N82E4R7J	RD 4.7 J 1/4W	
R45 , 46		RS14KB3D4R7J	FL-PROOF RS 4.7 J 2W	
R47 , 48		RS14KB3D561J	FL-PROOF RS 560 J 2W	
R113 , 114		RD14N82E101J	RD 100 J 1/4W	
R145		RD14N82E220J	RD 22 J 1/4W	
R196		R92-0173-05	RC 2.2M M 1/2W	KP
VR1		R29-5064-05	MOTOR VR 100KB X2 MAIN VOLUME	
VR2		S31-2322-05	POTENTIOMETER 100K MIC MIXING	MX
K1		S76-0008-05	MAGNETIC RELAY	M
S1		S40-1064-05	SLIDE SWITCH VOLTAGE SELECTOR	
S2 -22		S40-1064-05	PUSH SWITCH KEY BOARD	
D1 -11		HSS104	DIODE	
D1 -11		ISS133	DIODE	
D12		HZS7.5S(B)	ZENER DIODE	
D12		RD7.5JS(B)	ZENER DIODE	
D13 , 14		HZS6.2N(B2)	ZENER DIODE	
D13 , 14		RD6.2ES(B2)	ZENER DIODE	
D15 -18		ISR139-100	DIODE	
D19		HSS104	DIODE	
D19		ISS133	DIODE	
D20 -23		ISR139-100	DIODE	
D24		HZS7.5S(B)	ZENER DIODE	
D24		RD7.5JS(B)	ZENER DIODE	
D25		HZS27N(B2)	ZENER DIODE	
D25		RD27ES(B)	ZENER DIODE	
D26		ISR139-100	DIODE	
D28		HSS104	DIODE	
D28		ISS133	DIODE	
D29		D5SBA20F03	DIODE	
D30		HZS4.7N(B2)	ZENER DIODE	
D30		RD4.7ES(B2)	ZENER DIODE	
D31 , 32		HSS104	DIODE	
D31 , 32		ISS133	DIODE	
D34 -38		HSS104	DIODE	
D34 -38		ISS133	DIODE	
D39 , 40		ISR139-100	DIODE	
D41		HZS4.7N(B2)	ZENER DIODE	
D41		RD4.7ES(B2)	ZENER DIODE	
D42 -44		HSS104	DIODE	
D42 -44		ISS133	DIODE	
D45		MA177	DIODE	
D46		ISR139-100	DIODE	
ED1		FIP13CW19Y	FLUORESCENT INDICATOR TUBE	
IC1		TC4052BP	IC(4CH MPX/DE-MPX)	
IC2		STK4140MK2Z	IC(AF POWER AMP)	KP
IC2		STK4140MK5Z	IC(AF POWER AMP)	TE
IC2		STK4150MK2Z	IC(AF POWER AMP)	MX
IC3		TAB409S	IC(MOTOR CONTROL)	

LScandinavia
Y:PX(Far East, Hawaii)
Y:AFES(Europe)

KUSA
T:England
X:Australia

P:Canada
E:Europe
M:Other Areas

△ indicates safety critical components.

✱ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

NO.6

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向備考
IC4		NJM4558D	IC(OP AMP X2)	
IC5		UCP7805HF	IC(VOLTAGE REGULATOR/ +5V)	
IC6		MS0940-345SP	IC(MICROPROCESSOR)	
IC7		XR-1091ECP	IC(EQUALIZER FILTER)	
IC8		UFA80C	IC(7CH TRANSISTOR ARRAY)	
IC9		LB1294	IC(6CH DARLINGTON DRIVER)	
IC10	*	CP50112-375Q	IC(MICROPROCESSOR)	
IC10	*	CP50112-388Q	IC(MICROPROCESSOR)	
IC11	*	PST620DD8	IC(SYSTEM RESET)	MX
IC12 , 13		NJM4565D-D	IC(OP AMP X2)	
IC13		NJM4565D-D	IC(OP AMP X2)	KPTE
Q1 , 2		25C1740S(Q,R)	TRANSISTOR	
Q1 , 2		25C2785(F,E)	TRANSISTOR	
Q3 , 4		25C2878(B)	TRANSISTOR	
Q5 , 6		25C2878(B)	TRANSISTOR	
Q50		25C1740S(Q,R)	TRANSISTOR	
Q50		25C2785(F,E)	TRANSISTOR	
Q51		DIC124ES	DIGITAL TRANSISTOR	
Q51		RN1203	TRANSISTOR	
Q52		25A1175(F,E)	TRANSISTOR	
Q52		25A933S(Q,R)	TRANSISTOR	
Q53		25C1845(F,E)	TRANSISTOR	
Q54		DTA124ES	DIGITAL TRANSISTOR	
Q54		RN2203	TRANSISTOR	
Q55		25D1266(Q,P)	TRANSISTOR	
Q56		25B941(Q,P)	TRANSISTOR	
Q57		25A1175(F,E)	TRANSISTOR	
Q57		25A933S(Q,R)	TRANSISTOR	
Q58		25B772(Q,P)	TRANSISTOR	
Q59		25C2003(L,K)	TRANSISTOR	
Q60		DTC144TEF	DIGITAL TRANSISTOR	
Q61		25C2878(B)	TRANSISTOR	
Q62		25A992(F,E)	TRANSISTOR	
A1		W02-1046-05	ELECTRIC CIRCUIT MODULE	
ACCESSORY UNIT(X13-7090-10)				
C1 , 2		CE04LW1V100M	ELECTR0 10UF 35WV	
C3		CK45ESL1H390J	CERAMIC 39PF J	
C4		CK45ESL1H101J	CERAMIC 100PF J	
C5 , 6		CF92FV1H103J	MF 0.010UF J	
C7 , 8		CF92FV1H222J	MF 2200PF J	
C9 , 10		CE04LW1V100M	ELECTR0 10UF 35WV	
C11 , 12		CF92FV1H154J	MF 0.15UF J	
C13 , 14		CF92FV1H474J	MF 0.47UF J	
C17 , 18		CF92FV1H153J	MF 0.015UF J	
C19		CF92FV1H333J	MF 0.033UF J	
C20		CF92FV1H474J	MF 0.47UF J	
C21 , 22		CE04LW1V4R7M	ELECTR0 4.7UF 35WV	
C24 , 25		CE04LW1A101M	ELECTR0 100UF 10WV	
C26 , 27		CK45FE1H103Z	CERAMIC 0.010UF Z	
C31 , 32		CE04LW1V100M	ELECTR0 10UF 35WV	
C33 , 34		CE04LW1H2R2M	ELECTR0 2.2UF 50WV	
C35 , 36		CE04LW1H010K	ELECTR0 1.0UF 50WV	
C37 , 38		CK45FB1H471K	CERAMIC 470PF K	
C39 , 40		CK45ESL1H221J	CERAMIC 220PF J	

LScandinavia
Y:PX(Far East, Hawaii)
Y:AFES(Europe)

KUSA
T:England
X:Australia

P:Canada
E:Europe
M:Other Areas

△ indicates safety critical components.

UD-300

PARTS LIST

NO.8

× New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
C59 .60		CE04LW1C470M	ELECTR0		
C61 .62		CF92FV1H153J	MF	47UF 16WV	
C63		CE04LW1C101M	ELECTR0	0.015UF J	
C64		CK45FB1H102K	CERAMIC	1000PF 16WV	
L1 .2			SMALL FIXED INDUCTOR(10MH, J)		
L3	*	L40-1035-29	BIAS OSCILLATING COIL		
		L32-0542-05			
VR1		R12-1617-05	TRIMMING POT.(2.2K) HIGH SPEED		B
VR2		R12-1616-05	TRIMMING POT.(1K) NORMAL SPEED		B
VR3 .4		R12-0605-05	TRIMMING POT.(220) PLAY LEVEL		B
VR5 .6		R12-5072-05	TRIMMING POT.(100K) BIAS		A
VR7		R12-1617-05	TRIMMING POT.(2.2K) HIGH SPEED		A
VR8		R12-1616-05	TRIMMING POT.(1K) NORMAL SPEED		A
VR9 .10		R12-0605-05	TRIMMING POT.(220) PLAY LEVEL		A
K1		S51-2089-05	MAGNETIC RELAY		
D1 -4		H5S104	DIODE		
D1 -4		1S5133	DIODE		
D6 -9		H5S104	DIODE		
D6 -9		1S5133	DIODE		
D10		H2S11N(B2)	ZENER DIODE		
D10		RD11ES(B2)	ZENER DIODE		
D51 -55		H5S104	DIODE		
D51 -55		1S5133	DIODE		
IC1 .2		TA8125S	IC(2CH PRE AMP)		
Q1 .2		2SC3246	TRANSISTOR		
Q3 .4		2SC1845(F,E)	TRANSISTOR		
Q5		2SA992(F,E)	TRANSISTOR		
Q6		2SA1175(F,E)	TRANSISTOR		
Q6		2SA933S(Q,R)	TRANSISTOR		
Q7 -12		2SC1740S(Q,R)	TRANSISTOR		
Q7 -12		2SC2785(F,E)	TRANSISTOR		
Q13 .14		2SC3246	TRANSISTOR		
Q15		2SA1175(F,E)	TRANSISTOR		
Q15		2SA933S(Q,R)	TRANSISTOR		
Q16		2SC1740S(Q,R)	TRANSISTOR		
Q16		2SC2785(F,E)	TRANSISTOR		
CONTROL UNIT(X29-2300-10;K,P,0-21;M,0-71;X,2-71;T,E)					
C1 .2		CE04LW1HR47M	ELECTR0	0.47UF 50WV	
C3 .4		CE04LW1H010M	ELECTR0	1.0UF 50WV	
C5 -8		CE04LW1HR47M	ELECTR0	0.47UF 50WV	
C9 .10		CE04LW1H2R2M	ELECTR0	2.2UF 50WV	
C11 .12		CE04LW1H010M	ELECTR0	1.0UF 50WV	
C13 -16		CQ92FM1H222J	MYLAR	2200PF J	
C17 .18		CK45FE1H223Z	CERAMIC	0.022UF Z	
C19 .20		CQ92FM1H222J	MYLAR	2200PF J	
C21 -24		CE04LW1H0R1M	ELECTR0	0.1UF 50WV	
C25 .26		CE04LW1V100M	ELECTR0	10UF 35WV	
C27 .28		CE04LW1H2R2M	ELECTR0	2.2UF 50WV	
C29 .30		CE04LW1HR47M	ELECTR0	0.47UF 50WV	
C31 .32		CE04LW1H2R2M	ELECTR0	2.2UF 50WV	
C33 .34		CK45FB1H821K	CERAMIC	820PF K	
C37 -40		CE04LW1V100M	ELECTR0	10UF 35WV	
C41 .42		CF92FV1H333J	MF	0.033UF J	

L:Scandinavia K:USA P:Canada
Y:PX(Far East, Hawaii) T:England E:Europe
Y:AFES(Europe) X:Australia M:Other Areas

A indicates safety critical components.

NO.7

× New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
C41 .42		CE04LW1H010M	ELECTR0	1.0UF 50WV	
C43 .44		CF92FV1H224J	MF	0.22UF J	
C45 .46		CE04LW1HR47M	ELECTR0	0.47UF 50WV	
C47 .48		CF92FV1H913J	MF	0.091UF J	
C49 .50		CF92FV1H184J	MF	0.18UF J	
C51 .52		CF92FV1H333J	MF	0.033UF J	
C53 .54		CF92FV1H683J	MF	0.068UF J	
C55 .56		CF92FV1H133J	MF	0.013UF J	
C57 .58		CF92FV1H303J	MF	0.030UF J	
C59 .60		CF92FV1H562J	MF	5600PF J	
C61 .62		CF92FV1H123J	MF	0.012UF J	
C63 .64		CF92FV1H222J	MF	2200PF J	
C65 .66		CF92FV1H472J	MF	4700PF J	
C67 .68		CK45FB1H821K	CERAMIC	820PF K	
C69 .70		CE04LW1H2R2M	ELECTR0	2.2UF 50WV	
C71 .72		CE04LW1V100M	ELECTR0	10UF 35WV	
C73 .74		CE04LW1A101M	ELECTR0	100UF 10WV	
C75 .76		CK45FB1H471K	CERAMIC	470PF K	
R49 .50		RD14NB2E470J	R0	47 J 1/4W	
R77 .78		RD14NB2E470J	R0	47 J 1/4W	
IC1		TC9215P	IC(ANALOG SWITCH X 6)		
IC2		UPC4574C	IC(OP AMP X4)		
IC3	*	TDA3810	IC(PBUD00 STEREO CIRCUIT)		
IC4		NJM4550-D	IC(OP AMP X2)		
IC5 .6		M5229P	IC(7CH GRAPHIC EQUALIZER)		
IC7		LC7522	IC(7CH GRAPHIC EQUALIZER)		
Q1 .2		DTA124ES	DIGITAL TRANSISTOR		
Q1 .2		RN2203	TRANSISTOR		
NETWORK ASSY(X21-5990-10)					
C1		C90-1098-05	NP-ELEC	2.7UF 100WV	
J1	*	E29-0909-08	INPUT TERMINAL		
CD ELECTRIC UNIT(X25-4570-31)					
S1		S33-2062-05	LEVER SWITCH	LOADING	
RECORD/PLAYBACK AMPLIFIER UNIT(X28-2450-10)					
C1 .2		CK45FB1H561K	CERAMIC	560PF K	
C5 .6		CE04LW1H2R2M	ELECTR0	2.2UF 50WV	
C7 .10		CK45FB1H391K	CERAMIC	390PF K	
C11 .12		CF92FV1H223J	MF	0.022UF J	
		CE04LW1C470M	ELECTR0	47UF 16WV	
C13		CE04LW1C101M	ELECTR0	100UF 16WV	
C14		CQ93HP2A822J	MYLAR	8200PF J	
C15 -18		CC45FSL1H221J	CERAMIC	220PF J	
C19		CK45FB2H471K	CERAMIC	470PF K	
C20		CE04LW1V4R7M	ELECTR0	4.7UF 35WV	
C21 .22		CK45FB1H332K	CERAMIC	3300PF K	
C23		CK45FE1H103Z	CERAMIC	0.010UF Z	
C24		CK45FB1H102K	CERAMIC	1000PF K	
C25		CK45FE1H223Z	CERAMIC	0.022UF Z	
C51 .52		CC45FSL1H221J	CERAMIC	220PF J	
C53 .54		CK45FB1H391K	CERAMIC	390PF K	
C55 .56		CE04LW1H2R2M	ELECTR0	2.2UF 50WV	
C57 .58		CK45FB1H391K	CERAMIC	390PF K	

L:Scandinavia K:USA P:Canada
Y:PX(Far East, Hawaii) T:England E:Europe
Y:AFES(Europe) X:Australia M:Other Areas

A indicates safety critical components.

* NEW PARTS

Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

NO.9

Ref. No. 参照番号	Address 位置	New Parts 新部品	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
C43 , 44			CK45FF1H333Z	CERAMIC		
C45 , 46			CK45FF1H333J	ME		
C51			CK45FF1H333Z	CERAMIC		
C52			CE04LW1V100M	ELECTRØ	0.33UF Z	
			CE04LW1H2R2M	ELECTRØ	100F 35WV	
					2.2UF 50WV	
C53			CE04LW1H101M	ELECTRØ	100UF	
C54			CE04LW1H470M	ELECTRØ	47UF	
C55			CE04LW1H101M	ELECTRØ	100UF	
C56			CE04LW1V100M	ELECTRØ	10UF	
C57			CE04LW1H100M	ELECTRØ	10UF	
C58			CE04LW1E221M	ELECTRØ	220UF	
C59 , 60			CE04LW1V101M	ELECTRØ	100UF	
C61			CE04LW1E102M	ELECTRØ	1000UF	
C63			CE04LW1V101M	ELECTRØ	100UF	
C64			CC45FSL1H101J	CERAMIC	100PF J	
C66			CE04LW1H471M	ELECTRØ	470UF	
C67			CE04LW1E102M	ELECTRØ	1000UF	
C67			CE04LW1E471M	ELECTRØ	470UF	
C68			CE04LW1V471M	ELECTRØ	470UF	
C69			CE04LW1V100M	ELECTRØ	10UF	
C70			CE04LW1A101M	ELECTRØ	100UF	
C72			CE04LW1V101M	ELECTRØ	100UF	
C73 , 74			CE04LW1H101M	ELECTRØ	0.10UF J	
C75			CE04LW1H101M	ELECTRØ	100UF	
C76			CK45FF1H103Z	CERAMIC	0.010UF Z	
C77			CK45FF1H223Z	CERAMIC	0.022UF	
C78			CE04LW1A101M	ELECTRØ	100UF	
C79 , 80			CK45FB1H102K	CERAMIC	1000PF	
C81			CK45FB1H222K	CERAMIC	2200PF	
C82			CE04LW1H331M	ELECTRØ	330UF	
C83			CK45FF1H103Z	CERAMIC	0.010UF	
C84			CE04LW1H101M	ELECTRØ	1.0UF	
C85			CC45FSL1H101J	CERAMIC	100PF	
C86 - 88			CE04LW1V100M	ELECTRØ	10UF	
C89			CE04LW1C330M	ELECTRØ	33UF	
C90			CE04LW1A101M	ELECTRØ	0.010UF	
C91 - 94			CK45FB1H222K	CERAMIC	1000PF	
C95			CK45FF1H103Z	CERAMIC	0.010UF	
C96 , 97			CK45FF1H223Z	CERAMIC	0.022UF	
C98			CE04LW1V100M	ELECTRØ	10UF	
C99 - 101			C91-0753-05	CHIP C	470PF	
C102			CE04LW1H220M	ELECTRØ	22UF	
C202			CE04LW1H2R2M	ELECTRØ	2.2UF	
C203			C90-1627-05	BACKUP	0.047F	
C204			CE04LW0J221M	ELECTRØ	220UF	
C205			CE04LW1H010M	ELECTRØ	1.0UF	
C206			CK45FE1H103Z	CERAMIC	0.010UF	
C207			CE04LW1H010M	ELECTRØ	1.0UF	
C208			CC45FCH1H270J	CERAMIC	27PF	
C209			CC45FCH1H330J	CERAMIC	33PF	
C301			CE04LW1H010M	ELECTRØ	1.0UF	
C302			CE04LW1V100M	ELECTRØ	10UF	
L1 , 2			L79-0720-05	LC FILTER		
L3 , 4			L40-1011-17	SMALL FIXED INDUCTØR		

L:Scandinavia

K:USA

P:Canada

Y:PX(Far East, Hawaii)

T:England

E:Europe

Y:AFES(Europe)

X:Australia

M:Other Areas

△ indicates safety critical components

Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

NO.10

Ref. No. 参照番号	Address 位置	New Parts 新部品	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
X1			L78-0294-05	RESONATOR		
X201			L77-1176-05	CRYSTAL RESONATOR 4.194304MHZ		
F	2K		N89-3008-45	BINDING HEAD TAPTITE SCREW		
CP1			R90-0818-05	MULTI-COMP 47KX5		
CP201			R90-0803-05	MULTI-COMP 100KX7		
R117-120			RS14K83D151J	FL-PROOF RS 150		
R126			RS14K83D821J	FL-PROOF RS 820		
R306			RS14K83D221J	FL-PROOF RS 220		
S1 - 23			S40-1064-05	PUSH SWITCH		
S24			S31-2094-05	SLIDE SWITCH		
D1 - 18			HSS104	DIODE		
D1 - 18			ISS133	DIODE		
D19 , 20			S5566B	DIODE		
D19 , 20			ISR139-100	DIODE		
D21 - 34			HSS104	DIODE		
D21 - 34			ISS133	DIODE		
D35 , 36			S5566B	DIODE		
D35 , 36			ISR139-100	DIODE		
D37			RBV-402LFA	DIODE		
D41 , 42			R8721Q	DIODE		
D44			HZS3.9N(B2)	ZENER DIODE		
D44			RD3.9ES(B2)	ZENER DIODE		
D45			HZS6.2N(B2)	ZENER DIODE		
D45			RD6.2ES(B2)	ZENER DIODE		
D46			HZS7.5S(B2)	ZENER DIODE		
D46			RD7.5JS(B2)	ZENER DIODE		
D47			HZS30N(B)	ZENER DIODE		
D47			RD30ES(B)	ZENER DIODE		
D48			HZS2.7N(B2)	ZENER DIODE		
D48			RD2.7ES(B2)	ZENER DIODE		
D49			HZS4.7N(B)	ZENER DIODE		
D49			RD4.7ES(B)	ZENER DIODE		
D50 , 51			HSS104	DIODE		
D50 , 51			ISS133	DIODE		
D52			HZS6.2N(B2)	ZENER DIODE		
D52			RD6.2ES(B2)	ZENER DIODE		
D53 - 55			HSS104	DIODE		
D53 - 55			ISS133	DIODE		
D204-211			HSS104	DIODE		
D204-211			ISS133	DIODE		
D204-212			HSS104	DIODE		
D204-212			ISS133	DIODE		
D213 , 214			HSS104	DIODE		
D213 , 214			ISS133	DIODE		
D216-222			HSS104	DIODE		
D216-222			ISS133	DIODE		
D217-222			HSS104	DIODE		
D217-222			ISS133	DIODE		
D301			HZS3.3N(B2)	ZENER DIODE		
D301			RD3.3ES(B2)	ZENER DIODE		
D302			HZS5.1N(B2)	ZENER DIODE		
D302			RD5.1ES(B2)	ZENER DIODE		
ED1			F1F10BM7	FLUORESCENT INDICATOR TUBE		

L:Scandinavia

K:USA

P:Canada

Y:PX(Far East, Hawaii)

T:England

E:Europe

Y:AFES(Europe)

X:Australia

M:Other Areas

△ indicates safety critical components

UD-300

PARTS LIST

× New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

NO.11

Ref. No. 参照番号	Address 位置	New Parts 部品番号	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
IC1		*	KXP82324-104Q	IC(MICROPROCESSOR)		
IC2			IC(DOLBY B/C NR)			
IC3			TC4052BP	IC(4CH MPX/DE-MPX)		
IC4			XR14052B	IC(MULTIPLEXER/DEMULTIPLEXER)		
			BA10393	IC(DUAL COMPALATOR)		
IC5			NJ4565D	IC(OP AMP X2)		
IC6			RC4565D	IC(OP AMP X2)		
IC7			PST529D	IC(SYSTEM RESET)		
IC8 , 9			UPD7808HF	IC(VOLTAG REGULATOR/ +8V)		
			TD62554S	IC(4CH TRANSISTOR ARRAY)		
IC201		*	KXP50116-380Q	IC(MICROPROCESSOR)		
IC202			PST529D	IC(SYSTEM RESET)		
Q1 , 2			2SD2061	TRANSISTOR		
Q3			2SA999(E,F)	TRANSISTOR		
Q4			2SC1740S(Q,R)	TRANSISTOR		
Q5			2SC2785(F,E)	TRANSISTOR		
Q6			2SC3944A	TRANSISTOR		
Q7 -10			2SA1175(F,E)	TRANSISTOR		
			2SA933S(Q,R)	TRANSISTOR		
			2SC1740S(Q,R)	TRANSISTOR		
Q7 -10			2SC2785(F,E)	TRANSISTOR		
Q11 , 12			2SC2878(B)	TRANSISTOR		
Q13			DTA124ES	DIGITAL TRANSISTOR		
Q14			RN2203	DIGITAL TRANSISTOR		
Q15			DTA124ES	DIGITAL TRANSISTOR		
Q16			DTA124ES	DIGITAL TRANSISTOR		
Q17			DTA124ES	DIGITAL TRANSISTOR		
Q18			DTA124ES	DIGITAL TRANSISTOR		
Q19			DTA124ES	DIGITAL TRANSISTOR		
Q20 , 21			DTA124ES	DIGITAL TRANSISTOR		
Q201 , 202			2SC1740S(Q,R)	TRANSISTOR		
Q201 , 202			2SC2785(F,E)	TRANSISTOR		
Q203			2SA1175(F,E)	TRANSISTOR		
Q203			2SA933S(Q,R)	TRANSISTOR		
Q301 , 302			2SD1302(S,T)	TRANSISTOR		
Q303			2SA1175(F,E)	TRANSISTOR		
Q304			2SA933S(Q,R)	TRANSISTOR		
Q304			2SC1740S(Q,R)	TRANSISTOR		
Q304			2SC2785(F,E)	TRANSISTOR		
CD PLAYER UNIT(X32-2220-10;K,P,0-21;M-0-71;X,2-71;E)						
C1 , 2			CK73FB1H103K	CHIP C		
C4			CE04LW1C470M	ELECTR0		
C5			CK73FB1H103K	CHIP C		
C6			CK73FB1H473K	CHIP C		
C7			CE04LW1H010M	ELECTR0		
C8			CK73FB1H682K	CHIP C		
C9			CK73FB1H103K	CHIP C		

L:Scandinavia K:USA P:Canada
Y:PX(Far East, Hawaii) T:England E:Europe
Y:AFES(Europe) X:Australia M:Other Areas

△ indicates safety critical components.

× New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

NO.12

Ref. No. 参照番号	Address 位置	New Parts 部品番号	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
C10			CC73FSL1H330J	CHIP C		
C11			CE04LW1V100M	ELECTR0		
C12			CE04LW1H010M	ELECTR0		
C13			CE04LW1H333M	ELECTR0		
C14			CE04LW1H010M	ELECTR0		
C20			CC73FSL1H100D	CHIP C		
C21 , 22			CK73FB1H123K	CHIP C		
C21 , 22			CK73FB1H822K	CHIP C		
C23			CE04LW1H100M	ELECTR0		
C24			CK73FB1H103K	CHIP C		
C25			CE04LW1V100M	ELECTR0		
C27			CK73FB1H473K	CHIP C		
C28			CE04LW1H100M	ELECTR0		
C29 -31			CK73FB1H103K	CHIP C		
C32			CE04LW1A470M	ELECTR0		
C33			CC73FSL1H270J	CHIP C		
C34			CC73FSL1H220J	CHIP C		
C35 -38			CC73FSL1H471J	CHIP C		
C39			CE04LW1C470M	ELECTR0		
C40			CK73FB1H223K	CHIP C		
C41 , 42			CE04LW1H010M	ELECTR0		
C45			CK73FB1H103K	CHIP C		
C51 , 52			CE04LW1H47M	ELECTR0		
C53 , 54			CK73FB1H392K	CHIP C		
C66			CK73FB1H103K	CHIP C		
C100			CE04LW1C470M	ELECTR0		
C101 -104			CK73FB1H223K	CHIP C		
C101 , 102			CK73FB1H23K	CHIP C		
C105			CK73FB1H473K	CHIP C		
C106-108			CK73FB1H223K	CHIP C		
C109			CC73FSL1H101J	CHIP C		
C110			CC73FSL1H100D	CHIP C		
C170			CC73FSL1H101J	CHIP C		
C171			CC73FSL1H470J	CHIP C		
C501			CE04LW1C330M	ELECTR0		
C502			CK73FB1H103K	CHIP C		
C503			CC73FSL1H101J	CHIP C		
C550			CE04LW1C330M	ELECTR0		
C551			CK73FB1H333K	CHIP C		
C552			CK73FB1H152K	CHIP C		
C553			CK73FB1H222K	CHIP C		
C554			CK73FB1H221K	CHIP C		
C555 , 556			CE04LW1C330M	ELECTR0		
C600			CE04LW1H010M	NP-ELEC		
C601 , 602			CE04LW1C330M	ELECTR0		
C603			CK73FB1E104K	CHIP C		
C604			CE04LW1V47M	ELECTR0		
C605			CK73FB1E104K	CHIP C		
C606			CC73FSL1H470J	CHIP C		
C607			CK73FB1H332K	CHIP C		
C608			CK73FB1H102K	CHIP C		
C609			CK73FB1H103K	CHIP C		
C610			CK73FB1E104K	CHIP C		
C611			CK73FB1E563K	CHIP C		
C612			CK73FB1H561K	CHIP C		

L:Scandinavia K:USA P:Canada
Y:PX(Far East, Hawaii) T:England E:Europe
Y:AFES(Europe) X:Australia M:Other Areas

△ indicates safety critical components.

PARTS LIST

× New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teil ohne Parts No. werden nicht geliefert.

NO.13

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
C613		CK73FB1H333K	CHIP C		
C614		CE04LW1V100M	ELECTR0		
C615		CK73FB1H333K	CHIP C		
C616		CE04HW1A220M	NP-ELEC		
C617, 618		CK73FB1H103K	CHIP C		
C619		CE04LW1HR47M	ELECTR0		
C620, 621		CK73FB1H103K	CHIP C		
C622		CE04LW0J221M	ELECTR0		
C623		CK73FB1H152K	CHIP C		
C624		CK73FB1E473K	CHIP C		
C625		CE04LW0J221M	ELECTR0		
C626, 627		CC73FCH1H390J	CHIP C		
C628, 629		CE04LW1V100M	ELECTR0		
C630		CK73FB1H103K	CHIP C		
C631		CE04LW1C330M	ELECTR0		
C632, 633		CE04HW1HR47M	NP-ELEC		
C634		CK73FB1H102K	CHIP C		
C636, 637		CK73FB1H102K	CHIP C		
C638		CK73FB1E104K	CHIP C		
C639		CK73FB1H103K	CHIP C		
C640		CK73FB1H102K	CHIP C		
C641		CK73FB1E104K	CHIP C		
C642		CK45FB1H222K	CERAMIC		
J1		E20-0321-05	LOCK TERMINAL BOARD	TE	
J1		E70-0016-05	LOCK TERMINAL BOARD	KPMX	
QF1, 2		L72-0531-05	CERAMIC FILTER	KPMX	
QF1, 2		L72-0536-05	CERAMIC FILTER	TE	
L3		L30-0498-05	FM IFT	TE	
L5		L79-0125-05	LC FILTER	TE	
L7		L30-0467-05	AM IFT		
L11		L40-1021-14	SMALL FIXED INDUCTOR(1.0MH, K)		
L101		L40-1091-17	SMALL FIXED INDUCTOR		
L104		L39-1307-05	COMBINATION COIL	TE	
L105		L39-0192-05	COMBINATION COIL	KPMX	
L105		L39-1306-05	COMBINATION COIL	TE	
X1		L77-1122-05	CRYSTAL RESONATOR		
X2		L78-0295-05	RESONATOR		
X501		L77-1164-05	CRYSTAL RESONATOR		
X502		L78-0218-05	RESONATOR		
VR1, 2		R12-3686-05	TRIMMING POT. (22K)		
VR3		R12-1619-05	TRIMMING POT. (2.2K)		
VR51, 52		R12-3686-05	TRIMMING POT. (22K)		
W1 -4		R92-0679-05	CHIP R		
W7 -15		R92-0670-05	CHIP R		
W7 -8		R92-0670-05	CHIP R		
W10, 11		R92-0670-05	CHIP R		
W16, 17		R92-0670-05	CHIP R		
W18		R92-0670-05	CHIP R		
W19		R92-0679-05	CHIP R		
W20		R92-0670-05	CHIP R		
W20, 21		R92-0670-05	CHIP R		
W22		R92-0670-05	CHIP R		
W23		R92-0670-05	CHIP R		
W24		R92-0670-05	CHIP R		

L:Scandinavia

K:USA

P:Canada

Y:PX(Far East, Hawaii)

T:England

E:Europe

Y:AAFE(S)(Europe)

X:Australia

M:Other Areas

△ indicates safety critical components.

× New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teil ohne Parts No. werden nicht geliefert.

NO.14

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
W25, 26		R92-0679-05	CHIP R		
W27, 28		R92-0670-05	CHIP R		
W501-521		R92-0679-05	CHIP R		
S1		S31-2094-05	SLIDE SWITCH	DE-EMPHASYS	M
D1, 2		MA110	DIODE		
D4, 5		MA110	DIODE		
D6, 7		MA110	DIODE		
D102-106		MA110	DIODE		
D501-504		MA110	DIODE		
D505		DTZ5.1A	ZENER DIODE		
D505		MA8051-M	ZENER DIODE		
D506-510		MA110	DIODE		
D511		DTZ3.9A	ZENER DIODE		
D511		MA8039	ZENER DIODE		
D512, 513		MA110	DIODE		
IC1		LA1851N	IC(AM, FM TUNER)		
IC2		LC7218	IC(PULL SYNTHESIZER)		
IC51		UPD75216AGF-663	IC(MICROPROCESSOR)		
IC52		PST529D	IC(SYSTEM RESET)		
IC53		TA8409F	IC(MOTOR DRIVER)		
IC54		BA6396FP	IC(POWER DRIVER)		
IC55		KA1372Q	IC(CD RF SERV0)		
IC56		CMX2500AQ	IC(SIGNAL PROCESSOR)		
IC57		TC92378F	IC(D/A CONVERTER)		
IC58		TA2009F	IC(FILTER)		
Q1		2SC2413K	TRANSISTOR		
Q4		2SC2412K	TRANSISTOR		
Q5		2SA1037K	TRANSISTOR		
Q7, 8		2SC2412K	TRANSISTOR		
Q10		2SC3115(027, D28	TRANSISTOR		
Q11		2SC2412K	TRANSISTOR		
Q101, 102		2SC2412K	TRANSISTOR		
Q103-105		2SA1037K	TRANSISTOR		
Q106		2SC2412K	TRANSISTOR		
Q501		2SA954(L, K)	TRANSISTOR		
Q502		DTA143TS	DIGITAL TRANSISTOR		
Q503		DTA124ES	DIGITAL TRANSISTOR		
DT1		W02-1041-15	FM FRONT-END ASSY		
DT1		W02-1042-15	FM FRONT-END ASSY		
CD MECHANISM ASSY(X92-1650-31:K,P,0-32:M,0-33:X,0-34:T,E)					
101		3A	CHASSIS		
104		2B	SUB CHASSIS		
107		1A	SUB CHASSIS		
115		1B	ROD		
116		3A	SLIDER		
117		1A	ROD		
118		2A	PULLEY GEAR		
119		2A	INTERMEDIATE GEAR		
120		2B	MOYOR GEAR		
121		1B	GEAR		
122		2B	GEAR		
123		2A	MAIN GEAR		

L:Scandinavia

K:USA

P:Canada

Y:PX(Far East, Hawaii)

T:England

E:Europe

Y:AAFE(S)(Europe)

X:Australia

M:Other Areas

△ indicates safety critical components.

UD-300

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

NO.15

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向備考
124	3A	D15-0309-04	PULLEY ASSY	
126	2A	D16-0301-05	SYNCRØ BELT	
127	1A	D23-0265-03	RETAINER	
129	1B	E35-0296-05	FLAT CABLE 12P	
130	2B	G01-3409-04	INSULATOR SPRING FRONT	
131	2B	G01-3410-04	INSULATOR SPRING REAR	
133	2B	J02-1057-15	INSULATOR	
134	1A	J11-0164-03	CLAMPER	
135	2A	J99-0507-11	TRAY	
136	1A, 2A	N09-1522-05	SET SCREW (3X8)	
137	1A, 3A	N09-2720-05	TAPTITE SCREW (2.6X8)	
138	2A, 2B	N09-2749-05	MACHINE SCREW (2.6X8)	
139	3A	N35-2005-46	BINDING HEAD MACHIN SCREW	
140	2B	N39-2025-46	PAN HEAD MACHIN SCREW	
141	2B	N89-2008-46	BINDING HEAD TAPTITE SCREW	
142	2B	S33-1022-05	LEVER SWITCH	
147	1A	T50-1054-04	YØKE	
148	1A	T99-0503-15	MAGNET	
FM	2B	A11-0733-05	DISK MOTOR ASSY	
DM	2B	T42-0532-05	FEED MOTOR	
LM	3A	T42-0531-05	LOADING MOTOR	
PU	1B	T25-0014-05	OPTICAL PICKUP HEAD (KSS-240A)	
CASSETTE MECHANISM ASSY(D40-1214-05;A,5-05;B)				
301	2C	A10-2922-08	HEAD CHASSIS CALKED ASSY	
302	1D	A11-0754-08	BASE CHASSIS ASSY	
305	1E	D01-0138-08	FLYWHEEL ASSY LEFT	
306	1E, 2E	D01-0139-08	FLYWHEEL ASSY RIGHT	
308	2D	D10-3210-08	SHIFT LEVER	
309	2C	D10-3211-08	PLAY SHIFT LEVER	
310	2D	D10-3212-08	INTER LOCK LEVER	
311	2D	D10-3220-08	INTER LOCK LEVER	
311	1C	D10-3213-08	EJECT LEVER	
311	1C	D10-3221-08	EJECT LEVER	
312	1D	D10-3214-08	FR ARM	
313	1C	D10-3215-08	PLAY ARM	
314	1E	D10-3216-08	SHIFT SELECT LEVER	
315	2D	D10-3217-08	TRIGGER ARM	
316	2D	D10-3218-08	SELECT ARM	
317	1E	D10-3219-08	BRAKE ARM	
319	1D	D13-0965-08	CLUTCH GEAR	
320	1D	D13-0966-08	REW GEAR	
321	1D	D13-0967-08	FR GEAR	
322	1D, 2D	D13-0968-08	REEL GEAR	
323	2E	D13-0970-08	PLAY CAM GEAR	
324	1C	D13-0974-08	PLAY GEAR ASSY	
325	2C	D13-0981-08	ROTATION GEAR	
326	2C	D13-0982-08	RETURN GEAR	
329	2D	D19-0270-18	REEL CAP	
330	1E	D19-0273-08	CLUTCH PULLEY ASSY	
332	2D	D23-0277-08	HOUSING ASSY RIGHT	
333	1C	D23-0270-08	HOUSING ASSY LEFT	
335	1E	E35-0264-08	MOTOR WIRE	
336	1E	E35-0396-08	FLAT WIRE 15P	
337	2E	E35-0394-08	HEAD WIRE 5P	

L:Scandinavia

K:USA

P:Canada

Y:PX(Far East, Hawaii)

T:England

X:Australia

M:Other Areas

indicates safety critical components

△

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

NO.16

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向備考
337	2E	E35-0398-08	HEAD WIRE 3P	
338	1E	E40-4244-05	PIN CONNECTOR	
340	2C	G01-3428-08	RETURN GEAR SPRING	
341	1D	G01-3429-08	REEL SPRING	
342	1E	G01-3431-08	CLUTCH ARM SPRING	
343	1C	G01-3432-08	PLAY ARM SPRING	
344	1E	G01-3433-08	SHIFT SELECT LEVER SPRING	
345	2E	G01-3434-08	TRIGGER ARM SPRING	
346	2D	G01-3435-08	SHIFT LEVER SPRING	
347	2C	G01-3436-08	HEAD CHASSIS SPRING	
348	2D	G01-3437-08	PINCH ROLLER ARM SPRING RIGHT	
349	1C	G01-3438-08	PINCH ROLLER ARM SPRING LEFT	
350	1E	G01-3439-08	BRAKE ARM SPRING	
351	2C	G01-3440-08	INTER LOCK LEVER SPRING RIGHT	
351	2C	G01-3441-08	INTER LOCK LEVER SPRING LEFT	
353	1D	G02-0913-08	PACK LOCK FLAT SPRING	
354	2C	G02-0994-08	AZIMUTH SPRING	
355	2C, 2D	G11-2117-08	HEAD WIRE CLAMPER	
356	1D	G16-0780-08	REFLECT SEAL	
357	2C	G16-0786-08	INSULATING SHEET	
358	2C	J21-5789-08	HEAD PLATE ASSY	
360	2C	J31-0850-08	RETURN GEAR COLLAR	
361	1C, 2D	J31-0851-08	EJECT LEVER COLLAR	
362	2D	J42-0183-08	REEL CAP BUSHING	
363	2C	J90-0679-08	TAPE GUIDE	
364	2C	J90-0680-08	CASSETTE GUIDE	
365	1C, 2D	N09-2870-08	SCREW M2.6X5	
366	2C, 2D	N09-2871-08	SCREW M2X6	
367	2C	N09-2872-08	SCREW M1.7X8	
368	2C	N09-2873-08	SCREW M2X6	
369	2C	N09-2876-08	HEAD SCREW	
370	2C, 2D	N09-2877-08	TAP TITE SCREW M2X4	
371	2C	N09-2883-08	AZIMUTH SCREW	
372	1D	N19-1224-08	FLAT WASHER /4.1X6.5X0.25	
373	1E	N19-1225-08	FLAT WASHER /2.1X4.0X0.25	
374	1D	N19-1285-08	FLAT WASHER /1.6X3.0X0.13	
375	2E	N19-1286-08	FLAT WASHER /2.3X4.0X0.25	
376	2C	N19-1287-08	FLAT WASHER /3.5X6.5X0.5	
377	1C	N19-1288-08	FLAT WASHER /1.65X5.0X0.5	
378	2D	N19-1289-08	FLAT WASHER /1.8X6.0X0.5	
379	1D	N35-2604-46	BINDING HEAD MACHINE SCREW	
380	2E	N09-2900-08	SCREW M2X6	
381	2E	N09-2901-08	SCREW M2X4	
385	1E	S74-0006-08	LEAF SWITCH (REC, METAL, Cr02)	
386	1E	S74-0007-08	LEAF SWITCH (PACK DETECT)	
388	2D	T94-0226-08	SOLENOID ASSY	
390	1E	W02-1130-08	ELECTRIC UNIT	
BM	1E	D16-0326-08	MAIN BELT	
PR	2D	D14-0341-08	PINCH ROLLER ASSY	
PR	2C	D14-0340-08	PINCH ROLLER ASSY	
MM	1D	T42-0599-08	DC MOTOR ASSY	
PH	2C	T31-0066-08	PLAYBACK HEAD	
RPBH	2C	T39-0020-08	REC/PLAYBACK/ERASE HEAD	
PH1	1E	NJL516SK	PHOTO REFLECTOR	

L:Scandinavia

K:USA

P:Canada

Y:PX(Far East, Hawaii)

T:England

X:Australia

M:Other Areas

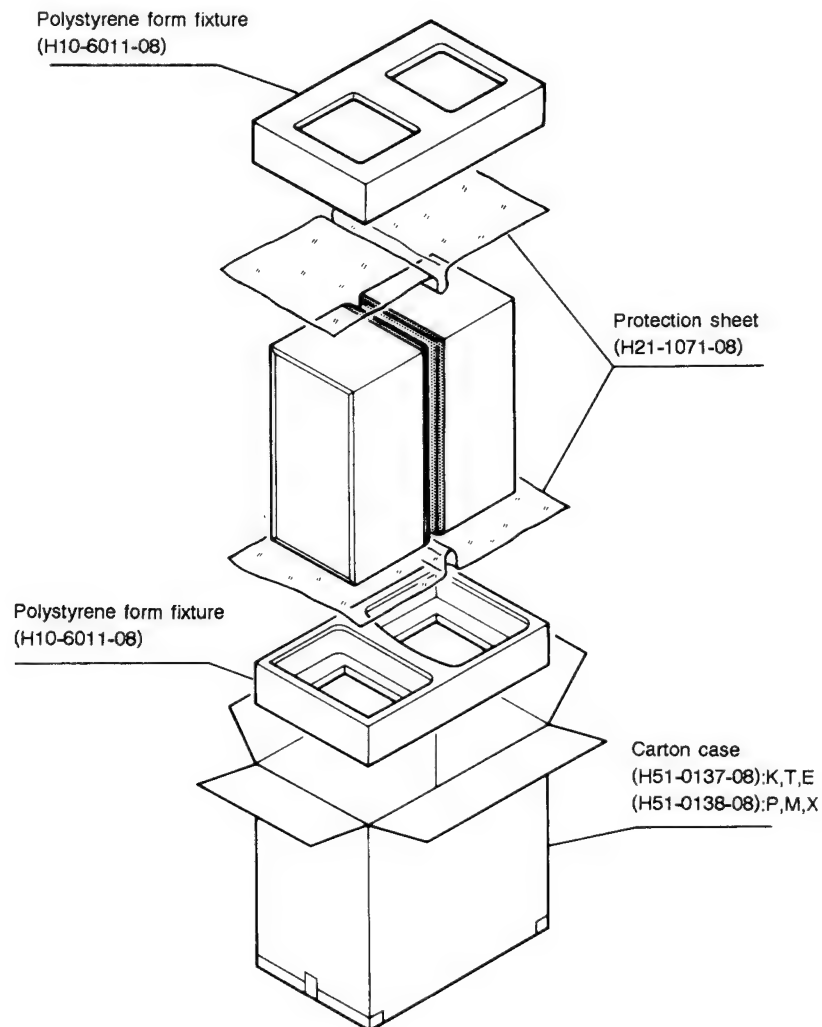
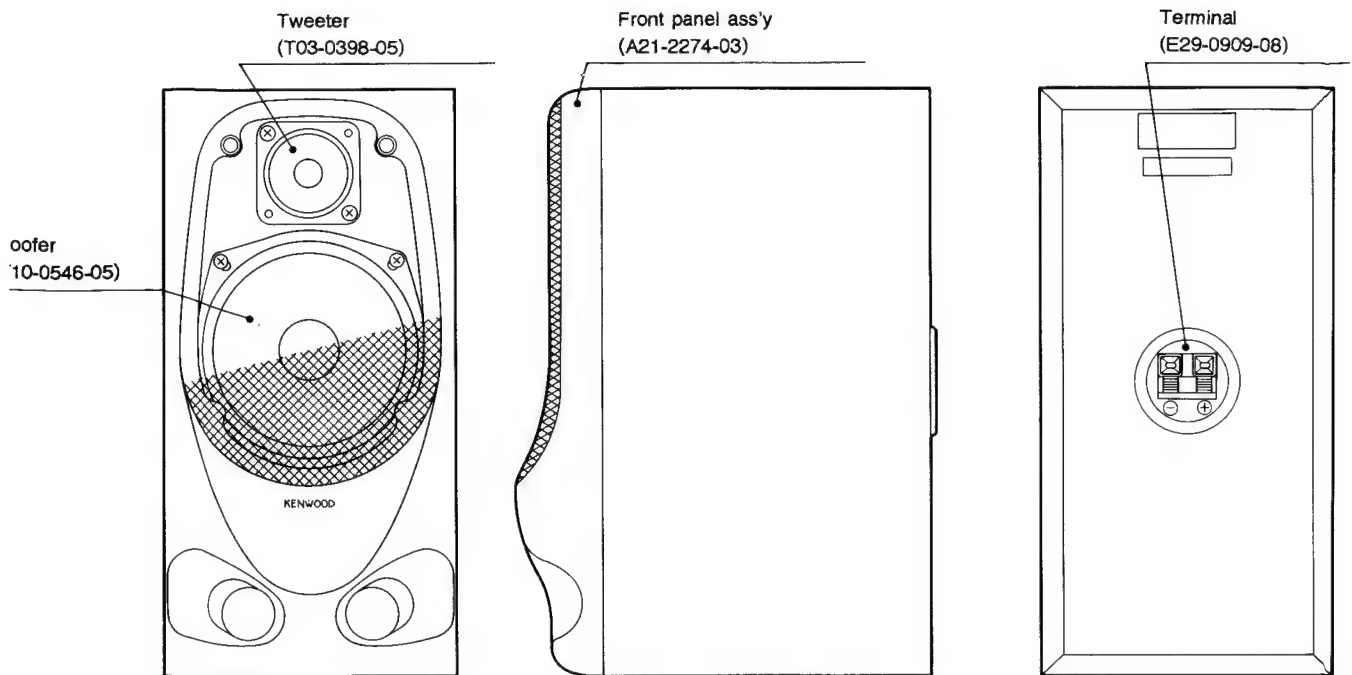
indicates safety critical components

△

PARTS LIST

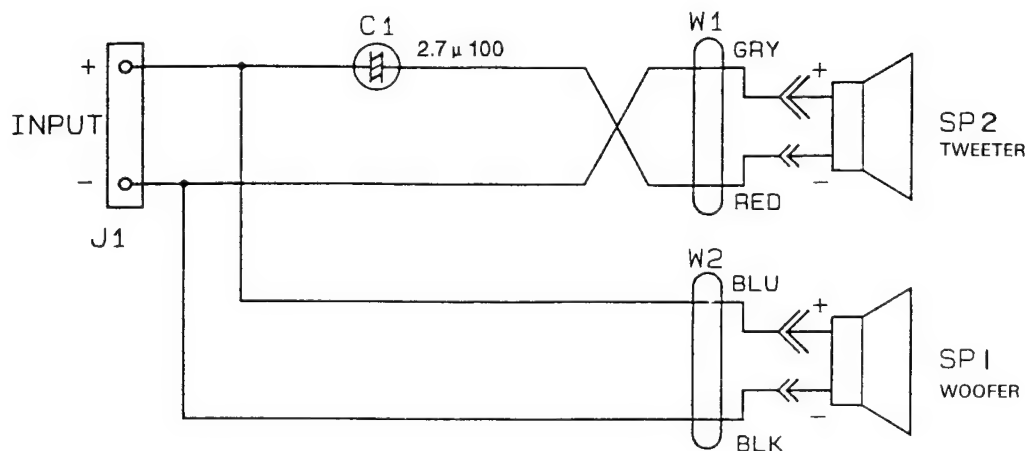
UD-300

SPEAKER SYSTEM



UD-300

SPEAKER SYSTEM



× New Parts

Parts without **Parts No.** are not supplied.

Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.

Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部 品 番 号	Description 部 品 名 / 規 格	Desti- nation 仕 向	Re- marks 備考
LS-A3						
-		*	A21-2274-03	FRONT PANEL ASSY	KTE PMX	
-		*	E30-5120-08	OUTSIDE CONNECTING WIRE		
		*	H51-0137-08	CARTON CASE		
		*	H51-0138-08	CARTON CASE		
-		*	H10-6011-08	POLYSTYRENE FOAMED FIXTURE		
-		*	H21-1071-08	PROTECTION SHEET		
SP1		*	T10-0546-05	LOUDSPEAKER(WOOFER)		
SP2		*	T03-0398-05	LOUDSPEAKER(TWEETER)		
NETWORK ASSY (X21-5990-10)						
C1			C90-1098-05	NP-ELEC 2.7UF 100WV		
J1		*	E29-0909-08	INPUT TERMINAL		

L:Scandinavia

K:USA

P:Canada

Y:PX(Far East, Hawaii)

T:England

E:Europe

Y:AAFES(Europe)

X:Australia

M:Other Areas

⚠ indicates safety critical components.

Specifications (For U.K. and Europe)

Amplifier/Graphic equalizer unit (A-A3)

Amplifier section

(IEC/NF) From 63 Hz to 12,500 Hz 0.7% T.H.D.
 at 8 Ω 25 W + 25 W
 (DIN) 1 kHz, at 8 Ω 25 W + 25 W
 Total harmonic distortion at 1/2 rated power
 (1 kHz, 8 Ω) 0.03%
 Signal to noise ratio
 AUX 86 dB (IHF' 66)
 Input sensitivity/Impedance
 AUX 200 mV/47 k Ω

Graphic equalizer section

Center frequency 60 Hz, 150 Hz, 400 Hz, 1 kHz,
 2.4 kHz, 6 kHz, 15 kHz
 Control range ± 10 dB

GENERAL

Power consumption 85 W
 Dimensions W: 270 mm
 H: 165 mm
 D: 276 mm
 Weight (Net) 4.7 kg

Cassette deck/CD player/Tuner unit (X-A3L)

FM tuner section

Tuning frequency range 87.5 MHz ~ 108 MHz
 Usable sensitivity (DIN at 75 Ω)
 MONO 0.9 μ V/10.2 dBf
 STEREO 28 μ V/40.2 dBf
 Total harmonic distortion (DIN at 1 kHz)
 MONO 0.3% (65.2 dBf input)
 STEREO 0.8% (65.2 dBf input)
 Signal to noise ratio (DIN weighted at 1 kHz)
 MONO 69 dB (65.2 dBf input)
 STEREO 62 dB (65.2 dBf input)
 Stereo separation (DIN)
 1 kHz 42 dB
 6.3 kHz 37 dB
 Selectivity (DIN ± 300 kHz) 64 dB
 Frequency response (30 Hz ~ 15 kHz)
 +0.5 dB, -3.5 dB

MW tuner section

Tuning frequency range 531 kHz ~ 1,602 kHz
 Usable sensitivity 20 μ V (600 μ V/m)
 Signal to noise ratio
 (at 30% mod. 1 mV input) 47 dB

LW tuner section

Tuning frequency range 153 kHz ~ 279 kHz
 Usable sensitivity 20 μ V
 Signal to noise ratio
 (at 30% mod. 1 mV input) 47 dB

CD player section

Refer to page 56.

Cassette Deck section

Refer to page 56.

GENERAL

Dimensions W: 270 mm
 H: 165 mm
 D: 250 mm
 Weight (Net) 3.4 kg

UD-300

SPECIFICATIONS

Specifications (For U.S.A. and Canada)

Amplifier/Graphic equalizer unit (A-A3)

Amplifier section

Continuous rated power output

25 watts per channel minimum RMS, both channels driven, at 8 Ω 1 kHz with no more than 0.7% total harmonic distortion. (FTC)

Total harmonic distortion at 1/2 rated power (1 kHz, 8 Ω) 0.1%

Signal to noise ratio

LINE (AUX) 86 dB (IHF' 66)

Input sensitivity/Impedance

LINE (AUX) 200 mV/47 k Ω

Graphic equalizer section

Center frequency 60 Hz, 150 Hz, 400 Hz, 1 kHz,
2.4 kHz, 6 kHz, 15 kHz

Control range ± 10 dB

GENERAL

Power consumption 85 W

Dimensions W: 270 mm (10-5/8")

H: 165 mm (6-1/2")

D: 276 mm (10-7/8")

Weight (Net) 4.7 kg (10.36 lb)

Cassette deck/CD player/Tuner unit (X-A3)

FM tuner section

Tuning frequency range 87.5 MHz ~ 108 MHz

Usable sensitivity (MONO at 75 Ω) 1.2 μ V/12.8 dBf

50 dB quieting sensitivity (at 75 Ω)

MONO 1.8 μ V/16.2 dBf

STEREO 28 μ V/40.2 dBf

Total harmonic distortion (at 1 kHz)

MONO 0.4% (65 dBf input)

STEREO 0.5% (65 dBf input)

Signal to noise ratio (at 1 kHz)

MONO 78 dB (65 dBf input)

STEREO 71 dB (65 dBf input)

74 dB (85 dBf input)

Stereo separation

1 kHz 40 dB

Selectivity (± 400 kHz) 50 dB

Frequency response (30 Hz ~ 15 kHz)

..... +0.5 dB, -3.5 dB

AM tuner section

Tuning frequency range

10 kHz step 530 kHz ~ 1,700 kHz

Usable sensitivity 16 μ V (500 μ V/m)

Signal to noise ratio

(at 30% mod. 1 mV input) 48 dB

CD player section

Refer to page 56.

Cassette deck section

Refer to page 56.

GENERAL

Dimensions W: 270 mm (10-5/8")

H: 165 mm (6-1/2")

D: 250 mm (9-13/16")

Weight (Net) 3.4 kg (7.5 lb)

SPECIFICATIONS

Specifications (For other countries)

Amplifier/Graphic equalizer unit (A-A3)

Amplifier section

Continuous rated power output

27 watts per channel minimum RMS, both channels driven, at 8 Ω 1 kHz with no more than 10% total harmonic distortion. (EIAJ)

(IHF' 66) From 60 Hz to 20 kHz, 1% T.H.D. at 8 Ω
 20 W + 20 W
 Total harmonic distortion at 1/2 rated power
 (1 kHz, 8 Ω) 0.1%
 Signal to noise ratio
 AUX 86 dB (IHF' 66)
 Input sensitivity/impedance
 AUX 200 mV/47 k Ω

Graphic equalizer section

Center frequency 60 Hz, 150 Hz, 400 Hz, 1 kHz,
 2.4 kHz, 6 kHz, 15 kHz
 Control range ± 10 dB

GENERAL

Power consumption 85 W
 Dimensions W: 270 mm
 H: 165 mm
 D: 276 mm
 Weight (Net) 4.7 kg

Cassette deck/CD player/Tuner unit (X-A3)

FM tuner section

Tuning frequency range 87.5 MHz ~ 108 MHz
 Usable sensitivity (MONO at 75 Ω) 1.2 μ V/12.8 dBf
 50 dB quieting sensitivity (at 75 Ω)
 MONO 1.8 μ V/16.2 dBf
 STEREO 28 μ V/40.2 dBf
 Total harmonic distortion (at 1 kHz)
 MONO 0.4% (65 dBf input)
 STEREO 0.5% (65 dBf input)
 Signal to noise ratio (at 1 kHz)
 MONO 78 dB (65 dBf input)
 STEREO 71 dB (65 dBf input)
 74 dB (85 dBf input)
 Stereo separation
 1 kHz 40 dB
 Selectivity (± 400 kHz) 50 dB
 Frequency response (30 Hz ~ 15 kHz)
 +0.5 dB, -3.5 dB

AM tuner section

Tuning frequency range

9 kHz step 531 kHz ~ 1,602 kHz
 10 kHz step 530 kHz ~ 1,610 kHz
 Usable sensitivity 16 μ V (500 μ V/m)
 Signal noise ratio
 (at 30% mod. 1 mV input) 48 dB

CD player section

Refer to page 56.

Cassette deck section

Refer to page 56.

GENERAL

Dimensions W: 270 mm
 H: 165 mm
 D: 250 mm
 Weight (Net) 3.4 kg

UD-300

SPECIFICATIONS

CD player section

Laser Semiconductor laser
Playing rotation 200 rpm ~ 500 rpm (CLV)

Audio

Frequency response 20 Hz ~ 20 kHz, ± 1.5 dB
Signal to noise ratio More than 90 dB
Total harmonic distortion
..... Less than 0.01% (at 1 kHz)
Wow & flutter Unmeasurable Limit

Speakers (LS-A3)

Enclosure Bass-reflex type
Speaker configuration 2 way system
Impedance 8 Ω
Maximum input level 45 W
Output sound pressure 88 dB/W, 1 m
Frequency response 50 Hz ~ 20 kHz
Dimensions W: 165 mm (6-1/2 ")
..... H: 330 mm (13 ")
..... D: 235 mm (9-1/4 ")
Weight (Net) 3.7 kg (8.2 lb)

Cassette deck section

Recording system AC bias (Frequency: 105 kHz)
Heads

A DECK Playback heads 1
B DECK Playback/recording heads 1
Erasing heads 1

Motor

A DECK 1
B DECK 1

Fast winding time Approx. 110 seconds (C-60 tape)

Frequency response

Normal tape 30 Hz to 18,000 Hz, ± 3 dB
CrO₂ tape 30 Hz to 19,000 Hz, ± 3 dB

Signal to noise ratio

Dolby C NR ON 72 dB
Dolby B NR ON 63 dB
Dolby NR OFF 53 dB

Wow & flutter 0.1% (W.R.M.S.)

KENWOOD CORPORATION

Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

KENWOOD U.S.A. CORPORATION

2201 East Dominguez Street, Long Beach, CA 90810,
550 Clark Drive, Mount Olive, NJ 07828, U.S.A.

KENWOOD ELECTRONICS CANADA INC.

P.O. BOX 1075, 959 Gana Court, Mississauga, Ontario, Canada L4T 4C2

TRIO-KENWOOD U.K. LIMITED

KENWOOD House, Dwight Road, Watford, Herts., WD1 8EB United Kingdom

KENWOOD ELECTRONICS BENELUX N.V.

Mechelsesteenweg 418 B-1930 Zaventem, Belgium

KENWOOD ELECTRONICS DEUTSCHLAND GMBH

Rembrucker-Str. 15, 6056 Heusenstamm, Germany

TRIO-KENWOOD FRANCE S.A.

13 Boulevard Ney, 75018 Paris, France

KENWOOD LINEAR S.p.A.

20125, MILANO-VIA ARBE, 50, ITALY

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD. (INCORPORATED IN N.S.W.)

P.O. Box 504, 8 Figtree Drive, Australia Centre, Homebush, N.S.W. 2140, Australia

KENWOOD & LEE ELECTRONICS, LTD.

Wang Kee Building, 4th Floor, 34-37, Connaught Road, Central, Hong Kong